



INTERNATIONAL **STUDENT LED CONFERENCE (SEASON -4)** **ON AI**

AS PART OF
10TH CHAIRMAN'S CHAMPIONSHIP
(AN INITIATIVE OF JGI)

Date : 16th November 2024
Saturday

Time : 10:30am to 1:00pm



Presided By

Dr. Chandrashekar DP

CEO - JGI PRESIDENT - ACADEMIC COUNCIL

Dr. Mona Mehdi

SECRETARY - ACADEMIC COUNCIL

Mrs. Lalitha Kosaraju

JT - SECRETARY - ACADEMIC COUNCIL

Distinguished Guests (Jury)

Ms Sunalini Benjamin
Bangalore

Mr Swaminathan Ganeshan
Chennai

Dr.Ritu Chauhan
Bangalore

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Message by Dr Chandrashekhar DP



Today's youth is already invested in the kind of future they want to talk about and shape. The two themes for this conference are prioritising human centred interaction with AI and also encouraging sustainable AI. We took inspiration from the UNESCO's recently published white paper on AI as a theme for students to come together to debate, discuss, deliberate and decide what you want your future to be. Child centric curriculum begins with a student -led conference that is my philosophy and our basic premise on which we work. It was back in the 1970's when the Founding Chairman of the Jain Group, Dr. Chenraj Roychand- a man who did not continue schooling, started schools and colleges and now he runs 3 universities in the country. On November 19th, 2024 the Chairman and the Honourable Prime Minister Narendra Modi are launching the world's first digital school at Guyana, the Caribbean Islands for benefiting 3 lakh students to get virtual education of high quality from the comfort of their homes. We are launching the world's first digital School. That is the power of technology. All the efforts you have made today will be with you for a lifetime. The burning topic for today's generation is climate change. To address this phenomenon, we need to harness the power of technology. Human centred AI is going to play a key role. For us, choosing a career was a lifetime choice but today I know none of you would be stuck in one career for your lifetime in fact for all you know you might have multiple careers. AI has the ability to empower you but do you have the ability to handle its power? That's the thought I would leave you with.

Dr Chandrasekhar DP

President, Academic Council and CEO of JGI Group

Message by Dr Mona Mehdi



The International Student Led Conference, this year was decided to be on artificial intelligence with students presenting their ideas on two topics: prioritising human centred interaction and encouraging environmentally sustainable AI. The idea was to give exposure to the students on a relevant and important topic. This event has become an important part of the academic calendar of not only JGI but also the participating schools as it gives a lot of exposure to the students. 7 teams, 21 participants, seven coordinators and 7 heads, 3 jury members and the academic Council with its Core Team have worked relentlessly to make this event a success. It is an experience for all to see these young minds expressing their thoughts on artificial intelligence which has become part of our lives. It's also an enthralling experience for the Jury members. On behalf of the Academic Council I take this opportunity to extend our gratitude to the eminent jury members, the Heads of all the Schools, the Coordinators and the participating team for being a part of the International event and joining hands in making our students think out of the box.

Dr Mona Mehdi
Secretary, Academic Council
JGI Schools

Message by Ms Sunalini Benjamin



I would like to begin by congratulating the management of JGI group of schools , Dr Chandrasekhar DP, Dr Mona Mehdi for giving me the opportunity to be a part of this event. I congratulate all the participating students. You have done a wonderful job through all your efforts and contribution. I could very strongly say the future of AI is in very capable hands because it's been very exciting to see the thoughtful and impactful work from the next generation of leaders. During the entire process for the last two months that you have been working on the thoughts and ideas you have put in have exhibited your digital literacy skills and you have also exhibited skills like critical thinking, communication and collaborative skills. This is your biggest learning and I must say that you are future ready during this entire experience that we have had from the abstract to the topics, the research articles and now this oral presentation we have dealt with certain aspects which is the human centred AI and environment friendly AI and sustainable AI. The true power of AI definitely lies in its potential to innovate in unexpected ways by providing solutions we may never have imagined. You have displayed that the future of AI is not limited but this could be something that we have not even dreamt of.

Ms. Sunalini Benjamin

COO Vijaykiran Group of Institutions ,Bangalore

Message by Mr Swaminathan Ganeshan



Congratulations to all participating in this International Student Led Conference. It's really an honour for me to serve as a jury member, being an industry guy coming into the arena of education, I feel like the odd one out. There are a couple of thoughts that I want to leave you with today. What is actually happening over all in the AI industry is that the industry is no longer looking for certificates. The industry is looking for solutions. The way in which the students today have put forward solutions not only elucidating the problems with something which is commendable. I appreciate all the efforts and what they have presented today. I applaud the research and efforts made. Now the other part is the ethical AI policy. I am proud to say that India is one of the leading countries when it comes to forming ethical AI policies and Tamil Nadu is the first state government to bring about an ethical AI policy document and guidelines regarding how it should actually be used so we are much further ahead in the game in comparison to the world. Something I would encourage you to research is Ai bias; the bias that is actually being created because of AI. The level of confidence displayed by the kids was really amazing. Many congratulations once again to the students, their schools and Academic Council for organizing such a Conference led by the students.

Mr Swaminathan Ganeshan

Co-founder and CEO of Smartail, Chennai

Message by Dr Ritu Chauhan



I am deeply honoured and grateful to be able to serve as a jury member in this wonderful event, the 10th Chairman's Championship of the JGI schools. As we are already talking a lot about AI I may not dwell too much on it. I would like you to understand that AI is not just a field of study, it is a revolution which is transforming all our lives. Judging your presentations was an enlightening experience. The incredible talent and innovative ideas that you have put through each presentation, have reflected profoundly on the standing of AI. It demonstrates that you are creating the vision of the future for everyone. Some of you have put emphasis on the need for responsible AI practices that are in line with sustainability. I am a PhD in Environmental Science and I am glad that you guys are really conscious about sustainable development. In another presentation you have emphasized on AI strategies to mitigate the climatic changes. Climate change was a new concept about 10 years back but now it's a need of the hour to encourage environmentally sustainable AI. Taking a human centred approach in daily life when it comes to AI which is really amazing. AI should be used as a supplementary tool and it should not be used to undermine human abilities. It has to be designed with empathy and transparency. I would like to congratulate all the participants for their outstanding efforts. You have not only expanded your own horizons but the way you have contributed to the collective knowledge is truly commendable. Appreciate the Management, Academic Council of JGI for coming up with such a Conference and making me a part of it.

Dr. Ritu Chouhan Rajput

Sr. Founder Principal, Mega International School

Bangalore

LIST OF PARTICIPATING TEAMS

Team – I

Insha Fathima Mankarathody, Laraib Hafiz, Kamaleshwer Purushothaman

School - DPS Modern Indian School, Qatar

Topic: Encouraging Environmentally Sustainable AI

Team – II

Isha Saxena, Saira Thomas, Saket Raje

School - GEMS Modern Academy, Dubai, United Arab Emirates

Topic: Prioritizing Human Centered Interaction with AI

Team – III

Everlyn Lai Kai Lynn, Choon Wan Yi, Alden Aldrich Ejin

School - TZU Chi International School, Kuala Lumpur

Topic: Prioritizing Human Centered Interaction with AI

Team – IV

Riya Naphade, Devansh Durgesh Bankar, Aaradhya Anurag Gaud

School - The Jain International School, Chh. Sambhajinagar, Aurangabad, India

Topic: Prioritizing Human Centered Interaction with AI

Team – V

Ananya Nair, Rohitha Kandagatla, Durva Trivedi

School - Jain Heritage a Cambridge School, Kondapur, India

Topic: Prioritizing Human Centered Interaction with AI

Team – VI

Tehreem Hussain, Laxmi Umredkar, Madhura Bankar

School - Jain Heritage a Cambridge School, Nagpur, India

Topic: Encouraging Environmentally Sustainable AI

Team – VII

Akshitha Reddy B, Abhinaya Kavasheri, Sonal Reddy. K

School - Jain Heritage a Cambridge School, Shamirpet, India

Topic: Encouraging Environmentally Sustainable AI

TEAM - I

Insha Fathima Mankarathody, Laraib Hafiz, Kamaleshwer Purushothaman

School - DPS Modern Indian School, Qatar

Topic: Encouraging Environmentally Sustainable AI

Abstract:

The intersection of Artificial Intelligence (AI) and environmental sustainability has become increasingly significant in everyday discourse. The rapid evolution of AI technologies carries substantial environmental implications, urging towards a change in basic practices. This paper examines the pressing need for environmentally sustainable AI, highlighting energy-efficient algorithms and the transition to renewable energy sources in data centers. Furthermore, ethical considerations surrounding data integrity, bias, and transparency are explored, advocating for responsible AI practices that align with sustainability goals. As we strive for a future where technology and ecology coexist harmoniously, interdisciplinary collaboration among technologists, policymakers, and environmental advocates is important. Sustainable AI aims not only for operational efficiency but also for the promotion of ecological and social justice throughout the AI lifecycle.

Keywords: Environmentally Sustainable AI; Ecological Stewardship; Ethical Frameworks; Energy Efficiency; Interdisciplinary Collaboration

Research Article

1.Introduction

Countries and corporations have been paying more devotion to the issue of what the environment must endure or could reap from the implementations of technology. In our era, the concerns surrounding climate change and environmental degradation have become more pressing. Such can only be addressed if solutions that further reduce the impact of our activities on the planet are sought and implemented. One such promising collaboration arising is that between sustainability initiatives and AI-a union promising a greener, more sustainable future. AI is a fast-emerging technology being churned out by developed nations visibly changing every sector of life. Sustainability is no exception either. Having the potential to enhance efficiency, reduce waste, and drive innovation, AI has become one of the critical tools in tackling environmental challenges for a sustainable future; hence, AI technology in Environmental Sustainability is thought of as an essential key player. This involves using AI technologies to optimize processes and reduce much waste resulting in eco-friendly practices within various sectors. They can also find new opportunities toward greener developments.

2.History

The historical narrative about environmentally sustainable AI reflects a greater evolution both in technology and environmental awareness. It is typical of a more general technological and environmental step that the historical account was able to record ecologically green AI. Green computing projects started to appear at the advent of the twenty-first century, emphasizing concern on reducing waste and ensuring energy efficiency. While AI technology continued to advance, so did potential concerns about its effects on the environment; hence, focused research was done to understand and mitigate these effects. Greater awareness of the energy use of AI led to the development of algorithms that are energy-efficient, using green power

resources in its data centers. The broader discussion around ethical AI has increasingly merged with the need for sustainable practices as ethical AI issues like bias, transparency, and knowledge integrity take center stage. It is from this trajectory that the needed balance between environmental stewardship and technological innovation becomes clear.

3.Review of the Issue

Energy efficiency is emerging as serious challenge nowadays together with the need to protect the climate, sustainable development, introduction of green AI technologies, circular economy, etc: - artificial intelligence (AI) has become a modern technology that allows organizations to control and process emissions data, find reduction possibilities – and measure achievements against sustainability objectives. The active algorithm development designing systems that introduce energy efficiency in computing is the major milestone for green technologies and practices in software and hardware development.

3.1. Energy Consumption

1. Significant Energy Requirements:

Studies have shown that there is significant carbon dioxide emissions cost associated with energy consumption in training AI models. For example, a 2019 paper from the University of Massachusetts Amherst estimated that training the BERT model emitted about 400,000 pounds of CO₂, comparable to the lifetime emissions of around 10 cars. Another analysis from 2021 highlighted that training models like OpenAI's GPT-3 can result in emissions as high as 500 metric tons of CO₂.

2.Transition to Renewable Energy:

Shifting data centers to renewable energy sources—such as solar and wind—can dramatically reduce the carbon footprint associated with AI operations. Along with implementing energy-efficient algorithms which can lead to operational cost savings while minimizing environmental impact in such actions.

3.2 Electronic Waste (E-Waste)

1. Rising E-Waste Concerns:

- The quantity of electronic trash is increasing because of the rapid spread of AI technologies. This inclination presents serious environmental risks, particularly where it comes to dealing with hardware incorrectly, which can leak hazardous materials into the environment.

2. Sustainable Hardware Design:

- Encouraging ‘green’ design features namely modularity and recyclability would cut back on the ill effects of e-waste. Participating in take-back schemes, in which the hardware is not only used but is also recycled, can help further mitigate this growing concern.

3.3 Bias and Data Integrity

1. Ethical Considerations:

- Keeping in check the ethical considerations of the experts in this field as well as taking decisions for the betterment of the environment along with such implications kept in mind for better effects.

2. Transparency and Accountability:

- Clear data practices and regular audits with respect to AI systems should be done to deal with these biases. Continuous evaluation ensures the proper conduct of AI systems. Moreover, having people with diverse backgrounds and perspectives integrated into AI development can enhance data quality and mitigate bias.

3.4 Interdisciplinary Collaboration

1. The Need for Collaboration:

- Building a sustainable future for AI needs no singular effort; it requires joint forces of technologists, environmentalists, and policymakers to incubate frameworks capable of promoting workable ideas while not remaining indecisive in the context of instore harmful effects on the plane of nature.

2. Shared Knowledge and Resources:

- By sharing insights and tools, all stakeholders can advance sustainable AI practices, ensuring that technology benefits both the environment and society.

4. Education and Awareness

4.1 Promoting Sustainable Practices in AI Education

- **Integrating Sustainability into Curricula:**

Courses such as those on energy-efficient algorithms and ethical use of AI must become stock-and-trade in college and university. So future environmental leaders can be made resolute.

- **Workshops and Training:**

Workshops and seminars can tutor students and professionals about energy efficiency and ethical issues to enable them to ride the wave of complexity in AI.

4.2 Public Engagement

- **Raising Awareness:**

Engaging the community through outreach can stimulate demand for sustainable AI practices. Educating consumers on making wise technology choices can help form a sustainable culture.

- **Promoting Responsible AI Discourse:**

Encouraging public discourse around the need for responsible AI ensures that growth in technological prowess is balanced by value given to ecological integrity and social justice.

5. Economic Participation and Employment

5.1 Creating Green Jobs

- **Employment Opportunities:**

Transitioning to sustainable AI may open various job roles in green tech as the industry aims for sustainability. Demand for employees with skills in sustainable and energy- efficient solutions for businesses and individuals offering AI-based services.

- **Stimulating Economic Growth:**

By investing in renewable energy sources and sustainable practices and waste management, the country could improve its economy while mathematically balancing out the environmental impact on the planet.

5.2 Sustainable Business Models

- **Competitive Advantages:**

- Companies can benefit from integrating sustainability into their AI plans. Companies' reputations increase when consumers are likely to favor them compared to others when products are environmentally friendly. For example, Research indicates that consumers are increasingly favoring companies with environmentally friendly practices. According to a 2021 survey by Nielsen, 73% of global consumers said they would change their consumption habits to reduce their environmental impact. Additionally, a 2020 study by IBM found that nearly 70% of consumers in the U.S.said they are willing to pay a premium for sustainable brands.
- These statistics highlight the significant impact that environmentally friendly practices can have on a company's reputation and consumer preference.
- Such considerations are best maintained with long-term industry profitability.

6. Challenges Faced

6.1 Infrastructure Limitations

- **Technological Barriers:**

Migrating to renewable energy often comes with large upfront costs. Upgrades and replacements in existing establishments come as a huge capital expenditure which might pose constraints to most companies.

- **Collaborative Efforts:**

It is important for policy makers and heads of industries to work together to produce incentives and friendly frameworks to help overcome this barrier.

6.2 Regulatory Hurdles

- **Lack of Cohesive Regulations:**

A streamlined set of standards, which does not hinder either growth or sustainability, acts as a vital tool for an unobstructed vision leading to responsible AI practices.

7. Proposed Solutions

7.1 Investment in Green Technology

- **Prioritizing Sustainable Investments:**

Organizations should prioritize investments in energy-efficient AI technologies to reduce the sector's carbon footprint. Aligning goals in this strategic way can help lead the way.

- **Leadership Commitment:**

The very core to increase sustainability in such a sector is the commitment through good and resolute leaders.

7.2 Development of Ethical AI Frameworks

- **Diversity in Development Teams:**

Establishing robust ethical guidelines for AI is essential to keep sustainability at the forefront. Transparency and accountability in AI systems build trust among stakeholders.

7.3 Promoting Circular Economy Principles

- **Implementing Sustainable Practices:**

Adapting circular economy practices in AI hardware production and throwing of minimum waste will enhance resource efficiency. Companies should prioritize sustainable design principles, emphasizing the importance of sustainability.

8. Results

Implementing sustainable AI practices can lead to numerous positive outcomes:

1. **Reduction of Environmental Impact:** Energy-efficient algorithms and sustainable data management can significantly lower carbon footprints, aiding global climate efforts.
2. **Enhanced Public Awareness:** Educational initiatives and community engagement will raise awareness about sustainable AI, empowering consumers to make informed choices.

3. **Creation of Green Jobs:** The shift toward sustainable AI will create new job opportunities in green technology, stimulating economic growth and addressing environmental challenges.
4. **Economic Growth and Competitiveness:** Companies that prioritize sustainability will enjoy better brand reputations and market competitiveness, driving innovation and long-term success.
5. **Strengthened Ethical Frameworks:** Comprehensive ethical guidelines will promote transparency in AI development, fostering trust among stakeholders.
6. **Diverse Development Teams:** Encouraging diversity in AI teams leads to more inclusive technological outcomes, improving the ethical quality of AI systems.
7. **Alignment with Societal Goals:** Integrating sustainability into corporate objectives helps ensure that technological advancements promote equity and resilience.
8. **Increased Collaboration:** Successful sustainable practices will require cooperation among policymakers, industry leaders, and educational institutions to develop cohesive regulations that support innovation.

In short, prioritizing sustainability in AI can yield benefits across environmental, economic, social, and ethical dimensions. By embracing these changes, we can shape a future where technology enhances human potential while respecting our planet.

9. Conclusion

The need to integrate sustainability into artificial intelligence is more urgent than ever. As technology becomes an integral part of our lives, we must consider its potential environmental impacts. Cultivating a mindset that values ecological integrity and social responsibility in AI is essential. Education plays a key role in this shift. By embedding sustainability in curricula and promoting public awareness, we can equip future professionals to champion responsible AI practices. Workshops, training, and community initiatives are vital to foster a culture of sustainability, empowering consumers to make informed choices and hold organizations accountable.

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POWERPOINT PRESENTATION



Integrating Technology with Ecological Stewardship:

ENVIRONMENTALLY SUSTAINABLE AI



Presented by: Students of DPS MODERN INDIAN SCHOOL

AGENDA



1

Introduction

2

Challenges Faced

3

Sustainable Practices

4

Collective efforts

5

Conclusion



INTRODUCTION

In an era marked by urgent climate challenges, the intersection of artificial intelligence and environmental sustainability has emerged as a critical focus. As AI technologies rapidly advance, their environmental implications demand immediate attention.





CHALLENGES FACED

Understanding these challenges is the first step toward addressing them.



- Growing urgency of climate change and environmental degradation
- AI as a key player in promoting sustainability

- Significant carbon emissions from AI model training (e.g., BERT, GPT-3)
- Increasing concerns over electronic waste due to AI proliferation
- Emergence of bias, transparency, and data integrity in AI



THESE CHALLENGES IMPACT OUR DAILY LIVES...



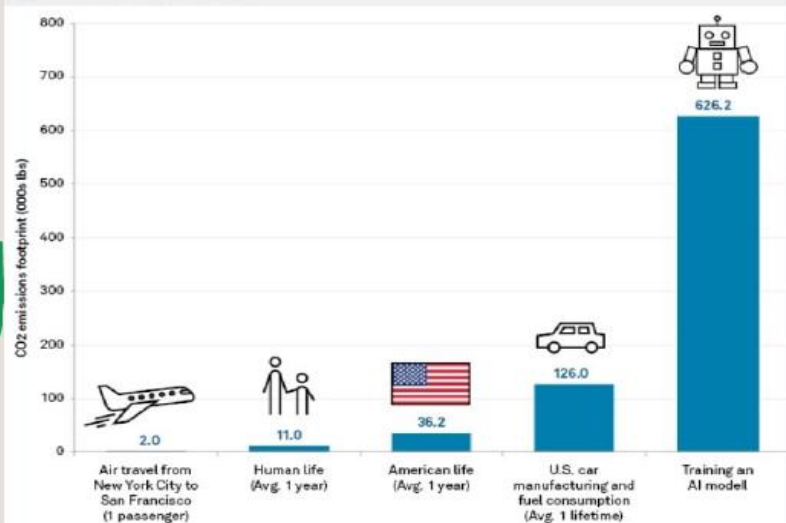
From extreme weather events to health concerns.

It's time to recognize the relevance of sustainability in artificial intelligence.

ANALYSIS



CO2 emission benchmarks



Data compiled Oct. 9, 2019.
An "American life" has a larger carbon footprint than a "Human life" because the U.S. is widely regarded as one of the top carbon dioxide emitters in the world.
Source: College of Information and Computer Sciences at University of Massachusetts Amherst

- Sharing insights and resources to promote sustainable AI practices
- Joint frameworks for actionable sustainability initiatives



SUSTAINABLE PRACTICES



- Integrating sustainability into AI education curricula
- Continuous evaluation and auditing of AI systems
- Importance of take-back schemes for responsible recycling

THE POWER OF COLLECTIVE ACTION



STRENGTH IN NUMBERS

When individuals unite for a shared goal, their collective voice has the potential to influence policies, practices, and industries.



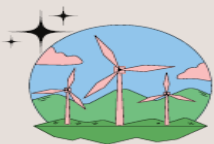
ADVOCACY AND AWARENESS

Campaigns often lead to increased public consciousness, which, in turn, drives changes at local, national, and international levels.

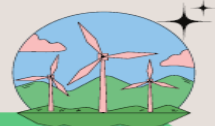


ECONOMIC TRANSFORMATION

The collective push for sustainability has the potential to reshape businesses towards more sustainable practices.



CONCLUSION



- Importance of diverse perspectives in AI development.
- Need for cooperation among technologists, policymakers and environmentalists.
- Urgent need to integrate sustainability into AI development.
- Role of education and public awareness in promoting responsible practices.
- Vision for a future where technology and ecology coexist harmoniously.

Thank You

"In the race for a sustainable future, AI is not the destination but the compass guiding us toward innovative solutions."



TEAM - II

Isha Saxena, Saira Thomas, Saket Raje

School - GEMS Modern Academy, Dubai, United Arab Emirates

Topic: Prioritizing Human Centered Interaction with AI

Abstract:

Artificial Intelligence (AI)-powered adaptive learning provides a customised educational experience by adjusting to each student's particular learning preferences and requirements. It has been noted that a student's ability to use different learning strategies has a significant impact on their academic achievement. For instance, a pupil might react more favourably to forms and patterns than to lengthy passages of text. This affects how pupils take in the material that is taught in the classroom. With regard to education, recent developments in AI, such as AI chatbots (ChatGPT, Gemini, etc.), NotebookLM et al., concentrate on text- or speech-based adaptation. This presentation will discuss a new AI model that aims to transform textual content into visual content in order to close the gap between fundamental teaching techniques and diverse learning preferences. The AI model trained using Machine Learning (ML) will use an extensive neural network consisting of: Recurrent and Convolutional Neural Networks, Long-Short Term Memory Networks and Deep Belief Networks. Specifically, the model will be trained using Deep Learning and will make use of Natural Language Processing (NLP).

Keywords:

Artificial Intelligence; Education; Adaptive Learning; AI Chatbots; NLPs; Machine learning; Neural networks; Learning patterns; Deep learning.

Research Article

1.Introduction

In recent years, the field of education has witnessed a significant shift towards personalized learning, driven largely by advancements in artificial intelligence (AI). Traditional education models that rely on one-size-fits-all approaches often fail to accommodate the diverse learning needs of students. According to research, children benefit from learning resources that suit their unique learning preferences, which can include text-based, kinaesthetic, visual, and auditory approaches. Tools like the Cognitive Abilities Test (CAT4), which determines cognitive capabilities and preferred learning modalities, helps understand these preferences.

With the worldwide AI in education market expected to reach \$20 billion by 2027, growing at a compound annual growth rate (CAGR) of 40% from 2020 to 2027, the role of AI in education is expanding at an astonishing rate. AI-powered adaptive learning platforms are growing in number, tailoring courses according to student data to maximize understanding and engagement. Research shows that when compared to pupils who use conventional approaches, students who use personalized educational tools perform 30% better academically.

This research paper aims to explore the currently existing AI adaptive learning tools and identify the gaps in these tools. This paper will also explore the possibility of creating of an AI-based adaptive learning tool that can transform textual learning materials into a student's preferred learning style, which can be manually entered or determined by the student's CAT4 results. By presenting information in ways that students are most likely to interact with and

comprehend, the tool seeks to improve student's educational experiences and foster improved learning outcomes. By utilizing adaptive AI technology, the tool customizes educational content for each learner, delivering it in formats such as text, visuals, or audio and video, to improve their academic performance and foster a deeper overall understanding.

As the world endures the negative effects of climate change, and slowly begins to affect positive change, the industry and sector of renewable energy, and energy as a whole has become the spotlight topic, discussed not only by world leaders and organization heads, but also by industry pundits. Decarbonized clean energy is the way to move forward in the era of sustainable development, and this means adopting methods such as Solar Energy, Wind Energy, Geothermal Energy as well as Hydroelectric Power, as this combats Climate Change but also meets the demand of energy. However, the electricity produced by these means have to be stored in batteries, and in order to increase the lifespan of such batteries as well as their efficiency in charging and discharging, Quantum Dots can be utilized.

2. Review

This paper focuses on exploring how AI-driven adaptive learning systems can be designed to cater to diverse learning styles, thereby enhancing individual student outcomes. Research conducted by the Bay Atlantic University reveals that there are four distinct types of learning preferences in education namely, Visual, Auditory, Read/Write and Kinesthetic Learning. The article emphasizes on the fact that every individual has a unique learning style and identifying and catering to these learning styles can be a deciding factor in academic success.

Another article by the Learners Edge supports this and further claims that the learning styles of students depend on several factors, including their environment and other cognitive and emotional factors and concludes that classroom strategies that incorporate different learning styles for different learners must be developed.

Furthermore, according to research published in the Journal of Education and Practice titled “Impact of Visual Aids in Enhancing the Learning Process Case Research: District Dera Ghazi Khan.”, the majority of learners tend to retain information that can be visualized. In other words, more learners find visual media more easily comprehensible as compared to textual information.

The rapid advancement of AI has led to the development of versatile and sophisticated language models and applications like ChatGPT by OpenAI and NotebookLM by Google which are revolutionizing the education sector by making learning and research easier than ever. Both applications use Generative AI models to understand and generate humanlike text, answer questions, engage in conversations and provide explanations. As mentioned in the paper titled “ChatGPT: A comprehensive review on background, applications, key challenges, bias, ethics, limitations and future scope”, written by Partha Pratim Ray, Generative AI models

rely on neural networks and deep learning techniques. The paper also highlights that the foundations of ChatGPT lie in the development of the transformer architecture that was introduced in the published research “Attention is All You Need” by Ashish Vaswani, Noam Shazeer, Jacob Uszkoreit et al. Furthermore NotebookLM, by Google, introduced the ‘Audio Overview’ feature that converts written documents into an engaging audio format by generating podcasts based on the written information. This feature also leverages Generative AI in addition to Natural Language Processing (NLP).

After conducting this literature review, although the current generation has witnessed the rise of numerous AI applications revolutionizing the use of technology in education, there is a need to create consolidated platforms that utilize generative AI models to make adaptive learning more accessible and implementable. In order to resolve this predicament, the authors hope to propose the development an application that works closely along the lines of Generative AI and NLPs which will allow the integration of various machine learning models to perform more complex functions and create a powerful tool for adaptive learning.

3. Methods

This paper uses both primary and secondary data to gather information pertaining to the topic under review through a systematic process. Primary data has been collected using questionnaires, observations of educational AI platforms and interview method. Secondary data has been collected from research articles. Through a systematic literature review aims to study how Artificial Intelligence (AI) can be used in the education sector by teachers to cater to the different learning styles of the students, thereby maximising the student’s learning outcomes. This literature review utilises the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) style of literature review, which involves systematically searching for research paper and articles on the chosen topic from a variety of databases, screening it for appropriateness and eligibility, conducting a qualitative and quantitative analysis from it, and documenting it all in sections mentioned in the PRISMA checklist.

3.1. Secondary data: Research Articles

The main sources of our data have been procured and researched have been collated mainly from ResearchGate, GeeksForGeeks, ScienceDirect, one of the highest bibliographic databases regarding Education and Computer Science, specifically useful for us about Artificial Learning (AI), Machine Learning (ML), and Neural Networks.

These sources provide critical insights into the use of AI in education, and how it can shape the future by catering to the individual needs of the students.

To search for articles, the use of Google Scholar was done, from 2010 to present, with keywords like “adaptive learning”, “generative AI”, “Natural language Processing”, “NLP”, “education”, “neural network” were used to narrow down the searches. This indicates that longitudinal data has been included in this paper.

3.2. Primary data: Interview, questionnaire and observation

3.2.1 Interview method

To be able to understand the importance of the AI-driven assisted learning, the relevant stakeholders to this must be consulted, i.e. the teachers, the students, and the education department.

To be able to cater to the learning patterns of the students, we must first be able to understand their hidden potential. This can be done using some specialised tests that would measure factors like their verbal, non-verbal, quantitative, and spatial reasoning skills. At Gems Modern Academy, Dubai, UAE, this test is conducted every alternate year from grades 1 to 11 by the education department. The school follows a mix of - the Indian School Certificate Examinations (ICSE) and the International Baccalaureate (IB) curriculum - and actively incorporate adaptive forms of learning in the classrooms. makes use of the Cognitive Abilities Test (CAT4) by GL Assessment to get their data. Most teachers here at GMA utilise this data to make their lesson plans, the students’ seating arrangement, and get an overall general idea of the students’ progress over the year.

The researchers interviewed primary and middle school teachers who revealed the significance of adaptive learning techniques, which are incorporated in the form of simulations, videos, diagrams etc., which help students with different learning styles absorb information effectively. Although, no physical data was provided, all the teachers collectively agreed that the classes when taught by catering to student learning patterns, they seemed to absorb the information more easily and be able to retain it for longer periods of time. These students were able to point out several conclusions from these activities and relate them better in similar topics. However, this was not commonly noticed when topics were taught in the traditional fashion, thereby, strengthening their observation.

3.2.2 Questionnaire method

The researchers also conducted a survey using a 5-point Likert scale questionnaire to assess their overall preference of students regarding adaptive learning systems. This survey tool consisted of a set of 4 questions under three primary sections: the first section assessing learning preferences of the students, the second focusing their use of different learning platforms catering to their adaptive need, and the third explored students' willingness to adopt AI-based learning tools.

The survey was administered on a total of 45 students across grades 9 to 12 of both IB and ICSE in the school. Demographic details such as curriculum and academic year were also collected to provide contextual insights. The survey was administered online, and students were given 5 minutes to complete it. Data collection occurred over the span of 2 school days. The 5-point Likert scale was on the following range, 1 being completely disagree and 5 being completely agree.

3.2.3 Observation

Overview of the Platform

The researchers studied AI Models from ChatGPT and NotebookLM, along with several other machine learning (ML) techniques with the aim to design an adaptive learning platform designed to enhance both the teaching aspect and learning experience. By providing personalised learning pathways to students while also enabling teachers to create more robust lesson plans and gauging the student performance and areas of improvement. An observation method of data collection was employed by the researchers and the result is shown below:

Planning Lessons with ChatGPT's Specialized GPTs

This platform would integrate ChatGPT's specialized GPT capabilities to assist teachers in lesson planning, who can chat with the GPT, making use of its natural language processing (NLP) using Recurrent Neural Networks (RNN)^[4], which is able to find the relation of the words spoken to its own earlier input or output and thus reach accurate conclusions, and enhanced large language models (LLMs) and would suggest multimedia resources like videos and simulations pertaining to their lesson's topic. Recommendations would be suggested by utilising collaborative filtering algorithms like latent semantic analysis (LSA) and reinforcement learning to improve on its suggestion from previous discussions.^[5] ChatGPT interprets user input and makes tailored resource recommendations using transformer-based architectures.^[3]

Student Assistance with Verbal and Visual Feedback

This platform would allow for students to interact with the text-based inputs and / or the voice based queries. Verbal learners may ask questions verbally and receive spoken responses through ChatGPT's voice assistant. This is done using technologies like speech-to-text (STT), that leverages deep learning models like RNNs (Recurrent Neural Networks) or transformers for real-time STT, and text-to-speech (TTS). Pointing the phone's camera at a problem, students can access ChatGPT's visual recognition system, created using a convolutional neural networks (CNNs) to process the images or diagrams, and receive either verbal or text-based feedback^[6].

Transforming Textbooks Using NotebookLM

This platform would convert regular textbook content into more interactive and digestible forms – using techniques like extractive summarization and abstractive summarization to make content shorter and more concise – like AI-generated podcasts (using neural text-to-speech models to make the speech more natural and engaging) or fun scripts, using NotebookLM's AI, allowing students to breakdown heavy topics to simpler and more understandable content matching with their learning preferences. Students could also ask the platform to summarise the content or answer their questions, done using retrieval-augmented generation (RAG) models, allowing NotebookLM to retrieve the most relevant sections of the summarised sections and thus provide a detailed answer.^{[7] [8]}

AI-Generated Flow Diagrams

To also cater to visual learners, this platform would include a feature that could generate flow diagrams or algorithmic process maps based on the students' inputs. This could be achieved using Recursive Graphical Neural Networks or RGNNs and Natural Language to Code (NL2Code), which could analyse texts and convert the information to a graph or flowcharts, using tools like Graphviz to achieve AI generated structured diagrams.^[9]

AI-Powered Quizzes

Teachers could enjoy the feature of self-generating Quizzes for their topic on the platform, using dynamic Bayesian networks and item response theory (IRT) models to predict the learner's understanding and adapt the questions accordingly, by either increasing or decreasing the difficulty level of the quiz.

Personalized Learning Pathways

This platform would also suggest the next activity or module for each student based on the student interaction using reinforcement learning models to achieve this. Students performing extremely well, may be suggested to continue forward to the next module, whereas those who may have found the current module slightly challenging, may be suggested to repeat the module or proceed to a simpler module.

4. Results and Dissscussion

This is a working paper and the main objective of the researchers is to create an AI-driven tool that provides adaptive learning customized to the unique cognitive profiles of students, thereby improving their academic performance and retention. The current study which has been

presented in this paper has been able to compare pre-existing AI driven tools that has enabled the researchers to identify the gaps in the current educational AI platforms. The identified gaps include the absence of an AI educational platform that consolidates all the advanced features our model aims to provide.

The immediate objectives include developing a working prototype of the tool and conducting pilot tests in select classrooms to gather real-time feedback from both students and teachers. The feedback loop will allow for iterative improvements to the model, ensuring that it adapts not only to different learning styles but also to varying levels of student progress.

Additionally, future versions of the tool will integrate analytics capabilities, providing educators with detailed insights into student performance and learning trends.

We conducted a survey among students in grades 9, 10, 11 and 12 that provided essential insights into their learning preferences, reinforcing the value of an AI-based adaptive learning tool that tailors content according to individual needs.

Notably, a sizable portion of respondents (38%) said they favoured text-based learning as mentioned in figure 1, whereas 20% said they preferred diagrammatic learning. With a significant portion of students with verbal bias choosing text-based materials, this distribution is in line with students' CAT4 results, which demonstrated a relationship between cognitive abilities and preferred learning styles. This supports our theory that learning preferences can be predicted by CAT4 scores, giving our technology a strong basis to precisely tailor learning materials based on these evaluations.

Along with this, 86% of respondents as indicated in figure 2 said that they believed the AI-based adaptive learning tool would improve their academic performance. Student's believe that the tool would make complex concepts more accessible and engaging further validating our model's objectives. The significant usage of existing tech-driven learning platforms like Nearpod and Gizmos among surveyed students also suggests a high level of receptivity towards educational technologies.

The tool is expected to enhance comprehension and academic achievement by linking content to cognitive capabilities and preferred learning styles. This finding aligns with previous studies on the effectiveness of adaptive learning in improving student outcomes.



Figure 1- Students most preferred learning style

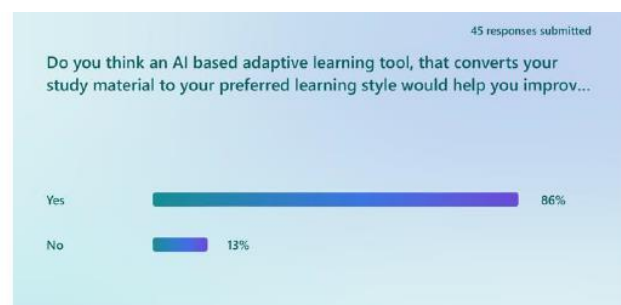


Figure 2- Students opinion on use of AI adaptive tools

5. Discussion and Conclusion

A longer-term goal is to incorporate real-time adaptive feedback mechanisms, allowing the tool to modify its output based on immediate student interactions. This would make the tool even more responsive to student needs, assisting teachers in constantly modifying their approaches and teaching methods. Depending on the learner's preferences and CAT4-assessed strengths, the model can convert textual content into other formats, namely diagrams, text, or audio and video. By providing personalized content, we aim to address the diverse learning needs of students, promoting better retention and engagement.

By adapting to the unique learning preferences and needs of each student, adaptive learning driven by artificial intelligence (AI) offers a personalised educational experience. A student's academic success is significantly impacted by their capacity to employ various learning strategies. In order to bridge the gap between basic teaching methods and a range of learning preferences, this presentation covered a novel AI model that attempts to convert textual content into various forms of adaptive learning material. The machine learning (ML)-trained AI model will employ a complex neural network that includes deep belief networks, long-short-term memory networks, and recurrent and convolutional neural networks. In particular, Natural Language Processing (NLP) and Deep Learning will be used to train the model.

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Isha Saxena, Saira Miriam Thomas and Saket Raje give permission to chairman's championship student lead conference on AI, to publish the paper "Optimizing student learning outcomes: developing AI-Powered adaptive learning tools to accommodate diverse learning preferences" on their platform. We have no objection in the organizers our work. It is an original work preference, this presentation covered a novel AI model that attempts to convert textual content into various forms of adaptive learning material. The machine learning (ML)-trained AI model will employ a complex neural network that includes deep belief networks, long-short-term memory networks, and recurrent and convolutional neural networks. In particular, Natural Language Processing (NLP) and Deep Learning will be used to train the model.



POWERPOINT PRESENTATION

Adaptive Learning using AI

Human Centered Artificial Intelligence

Saket Raje, Saira Thomas, Isha Saxena - GEMS Modern Academy

TABLE OF CONTENTS

Serial No.	Title
1	Research Question
2	Review of the Problem
2	Methodology
3	Our Model
4	Summary

Research Question

In what ways may AI-powered adaptive learning platforms help teachers improve student learning outcomes by accommodating a range of learning preferences?



Review

Purpose: -

Use AI based adaptive learning to personalize learning and improve student outcomes.

Learning Styles: -

Visual, Auditory, Read/Write, Kinesthetic. Tailoring to these styles can boost academic success.

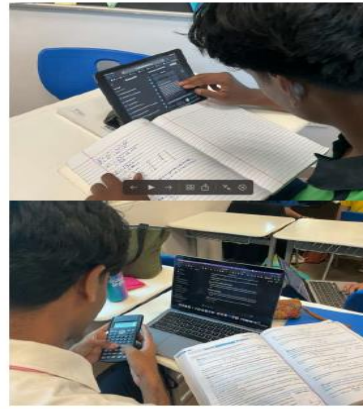


Factors Affecting Learning Styles :-

- Influenced by environment, cognitive, and emotional factors.
- Classroom strategies should adapt to these differences.
- Visual aids enhance retention over text-based information.

AI in Education Tools

- ChatGPT
- NotebookLM



Objective of our model

Future of AI in Adaptive Learning

- Need for an integrated AI platform.
- Proposed app: combines generative AI and machine learning for adaptive learning.



A photo of students interacting with Pepper, the school Robot, asking for book suggestions.

Methodology

Primary Data



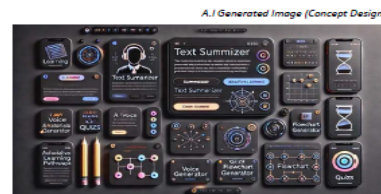
Interviewed teachers, who have taught using the adaptive learning to gain insights on current teaching styles, benefits and overall development.

Interview



Surveyed the students to understand their viewpoints on the impact and their current awareness of this adaptive learning systems.

Questionnaire



Studied AI Models and ML Techniques to design a concept for a platform for teachers and students on the adaptive learning techniques driven by AI.

Observation

Interviewing Teachers

Student Name	IDNO	Section	Cognitive Abilities Test (CAT) 4 Data									
			Verbal Reasoning	Verbal MA	Verbal Standard	Quantitative Reasoning	Quantitative MA	Quantitative Standard	Non-verbal Reasoning	Non-verbal MA	Non-verbal Standard	Spatial Reasoning
STUDENT 1	0101	B	128	8	107	128	8	107	128	8	107	128
STUDENT 2	0102	B	128	8	107	128	8	107	128	8	107	128
STUDENT 3	0103	B	128	8	107	128	8	107	128	8	107	128
STUDENT 4	0104	B	128	8	107	128	8	107	128	8	107	128
STUDENT 5	0105	B	128	8	107	128	8	107	128	8	107	128
STUDENT 6	0106	B	128	8	107	128	8	107	128	8	107	128
STUDENT 7	0107	B	128	8	107	128	8	107	128	8	107	128
STUDENT 8	0108	B	128	8	107	128	8	107	128	8	107	128
STUDENT 9	0109	B	128	8	107	128	8	107	128	8	107	128
STUDENT 10	0110	B	128	8	107	128	8	107	128	8	107	128
STUDENT 11	0111	B	128	8	107	128	8	107	128	8	107	128
STUDENT 12	0112	B	128	8	107	128	8	107	128	8	107	128
STUDENT 13	0113	B	128	8	107	128	8	107	128	8	107	128
STUDENT 14	0114	B	128	8	107	128	8	107	128	8	107	128
STUDENT 15	0115	B	128	8	107	128	8	107	128	8	107	128
STUDENT 16	0116	B	128	8	107	128	8	107	128	8	107	128
STUDENT 17	0117	B	128	8	107	128	8	107	128	8	107	128
STUDENT 18	0118	B	128	8	107	128	8	107	128	8	107	128
STUDENT 19	0119	B	128	8	107	128	8	107	128	8	107	128
STUDENT 20	0120	B	128	8	107	128	8	107	128	8	107	128
STUDENT 21	0121	B	128	8	107	128	8	107	128	8	107	128
STUDENT 22	0122	B	128	8	107	128	8	107	128	8	107	128
STUDENT 23	0123	B	128	8	107	128	8	107	128	8	107	128
STUDENT 24	0124	B	128	8	107	128	8	107	128	8	107	128
STUDENT 25	0125	B	128	8	107	128	8	107	128	8	107	128
STUDENT 26	0126	B	128	8	107	128	8	107	128	8	107	128
STUDENT 27	0127	B	128	8	107	128	8	107	128	8	107	128

Students took a cognitive test (CAT4) covering verbal, non-verbal, quantitative, and spatial skills to help teachers assess their needs and plan accordingly.

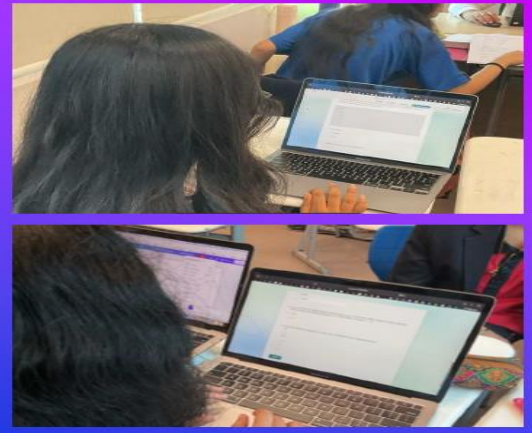
Primary and Middle school teachers collectively agreed the importance of catering to individual student needs:

1. It helped the student to better understand and absorb the course content.
2. The students were able to retain this information for longer and easily recall it in other classes.

Statistical Study:

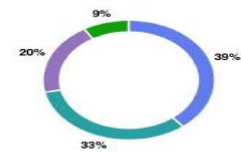
Survey Insights:

- 45 students (grades 9-12) surveyed at GEMS Modern Academy, Dubai.
- 38% of students prefer text-based learning; 20% prefer diagrams. Preferences align closely with Cognitive Abilities Test (CAT4) results, highlighting a connection between cognitive abilities and learning style.
- 90% of students felt an adaptive AI tool would enhance their academic performance.



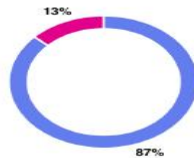
3. What is your most preferred learning style?

Text	18
Audio	0
Video	15
Diagrams	9
Other	4



5. Do you think an AI based adaptive learning tool, that converts your study material to your preferred learning style would help you improve your performance in school?

Yes	40
No	6



Our Model



Content transformation

Textual educational content into various formats (visual, auditory, textual) to match individual learning styles identified through CAT4 assessments or manual input.



AI Techniques

Utilizes Recurrent Neural Networks (RNN), Convolutional Neural Networks (CNN), and Natural Language Processing (NLP) for content adaptation and multimedia conversion (e.g., creating flowcharts or audio summaries).



Real-Time Adaptation

The model is designed to respond to real-time student interactions, allowing adjustments in content delivery based on immediate feedback, ensuring continuous optimization of learning materials.

Our Model



Lesson Planning with ChatGPT's Specialized GPTs



Student Assistance with Verbal and Visual Feedback



Transforming Textbooks Using NotebookLM



AI-Generated Flow Diagrams



AI-Powered Quizzes



Personalized Learning Pathways

Impact we aim to make

Improved Academic Performance

Personalized content boosts comprehension, retention, and grades.

Enhanced Teacher Efficiency

AI-driven lesson plans and analytics empower teachers to focus on student needs effectively.

Greater Student Engagement

Learning in preferred formats (text, visual, audio) makes content more accessible and engaging.

Data-Driven Growth

Real-time analytics provide insights for ongoing student improvement and adaptive teaching.

Support for Diverse Learners

Offers tailored resources that reduce learning gaps and accommodate varied cognitive abilities.

Scalability

The model is adaptable across subjects and schools, expanding personalized learning globally.

Future Prospects

Data Collection

Collect upto 500 additional data samples to help the classification model identify learning styles and modify learnign material accurately

Model Creation

Develop an AI model to incorporate all the discussed features to study the real time impact of AI on education.

Scalability

Incorporate multiple languages to cater to wider audiences.
Reinforce existing features to generate more detailed outputs.

SUMMARY

Objective:

Create an AI tool that adapts to student cognitive profiles, improving performance and retention.

Current Study:

Identified gaps in existing tools, emphasizing the need for a comprehensive adaptive platform.

Immediate Goals:

Develop a prototype, pilot it, and refine based on feedback.

Survey Insights:

Learning preferences align with CAT4 scores; 86% believe the tool will enhance learning.

Benefits:

Boosts comprehension and accessibility by aligning content with cognitive strengths.

Conclusion:

Supports personalized learning, bridging the gap with traditional methods.

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Thank you

TEAM - III

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School - TZU Chi International School Kuala Lumpur

Topic: Prioritizing Human Centered Interaction with AI

Abstract

Human-centred Artificial Intelligence (HCAI) has been increasingly prioritised and implemented widely, allowing for the potential of increased efficiency. While HCAI seems more advanced than traditional artificial intelligence (AI), it is better suited for analytical roles that demand high-level cognitive skills that may exceed human capabilities. In contrast, traditional AI can effectively handle repetitive tasks, including mass production or manufacturing, which sometimes require significant physical effort.

By examining these unique characteristics of HCAI, this paper will delve into its application in fields that demand a “human touch,” addressing the importance of ethical needs such as comfort and well-being.

Specifically, this research will focus on education, healthcare, and customer service, emphasising that HCAI can foster better outcomes in these sectors.

Ultimately, this work aims to provide insights into optimising the correct implementation of AI and HCAI, aligning it with human values and societal needs.

Research Article

1.Introduction

The integration of Human-centred Artificial Intelligence (HCAI) is reshaping industries (that we are going to discuss are) education, customer service, and healthcare by integrating human involvement with AI-driven insights. Because HCAI prioritises human collaboration between AI systems and human users, this ensures ethical, transparent, and empathetic outcomes.

In education, HCAI allows teachers to personalise learning while maintaining control over AI commands, promoting engagement and fairness, and protecting the human touch in education. Similarly, in customer service, HCAI enhances the user experience by adapting to customer emotions through advanced technologies like natural language processing and sentiment analysis, ensuring personalised and empathetic interactions. In healthcare as well, where empathy plays a huge role, HCAI provides valuable AI insights whilst retaining that human touch.

This study will explore the benefits and challenges of HCAI in these key sectors, focusing on its role in improving human interaction, decision-making, and personalised care.

2.Review of the issue

Since we must be prepared to meet the demands of a new era, we must emphasise human control over AI in the education sector for our education system to evolve for the better. In education, with HCAI, the user can balance innovation and risk management. A recent study identified eight key risks affecting HCAI’s educational effectiveness: misunderstanding of the HCAI concept (MC), misuse of AI resources (MR), mismatching of AI pedagogy (MP),

privacy security risk (PSR), transparency risk (TR), accountability risk (AR), bias risk (BR), and perceived risk (PR), which ranked on weightage of the risks $MP > MR > AR > PSR > TR > PR > BR > MC$ ¹. This is an immense advantage over traditional AI in highlighting human control over AI insights as it provides them with a direction for future governance ².

Empathy involves emotional, cognitive, and moral dimensions. Traditional AI, though powerful in data processing, lacks the emotional depth to understand feelings genuinely. For instance, while AI can mimic empathy in cases of grief or betrayal, it is purely based on data patterns and algorithms. This limits the effectiveness in areas like healthcare where empathy is immensely important. In contrast, HCAI is designed to bridge this gap by focusing on interpreting human emotion more accurately. It utilises advanced techniques such as facial and voice recognition to capture emotional cues, achieving over 90% accuracy in identifying facial expressions ³, making them more reliable for healthcare.

In customer service, human-centred interaction can increase customer satisfaction and boost businesses as it strengthens connections between customers and businesses while enhancing customer experience. This is achieved with key training such as Natural Language Processing(NLP) and Machine Learning(ML). ML understands context, tone, and emotional cues, enabling more empathetic and adaptable interactions than traditional AI. MLP allows HCAI to detect subtle emotions in language, while ML helps it learn from past interactions, refining its responses over time. In contrast, traditional AI, which is limited to pre-set algorithms, lacks this nuanced human touch.

3.Methods

Following the report regarding how Human-centred Artificial Intelligence (HCAI) is more suitable for jobs that revolve around healthcare, education, and customer services. We conducted a systematic review of how HCAI provides such fields with a higher advantage by going through multiple case studies. The studies explain how artificial intelligence (AI) may cause some ethical issues in such fields and how HCAI is more beneficial.

4.Results

Education

HCAI and traditional AI differ greatly in their approach to education. While HCAI prioritises human interaction, enabling educators to have more control over AI insights. This allows teachers to adapt these insights to create a personalised and empathetic learning experience. In contrast, regular AI operates autonomously. This means that while they can create personalised lesson plans, they lack the emotional engagement or motivational factors.

Additionally, ethics and biases are also handled differently: HCAI highlights transparency, integrating educator involvement to ensure fairness and address potential biases, but traditional AI amplifies biases unintentionally due to limited human oversight.

Adaptability is also different in both; HCAI supports flexibility by allowing human customisation of learning plans that accommodate unique student needs more effectively than AI, which relies only on algorithms.

HCAI also integrates human empathy and insight into student's well-being, establishing a supportive environment that traditional AI, which solely relies on cognitive learning, overlooks.

Finally, HCAI provides transparency by showing educators the rationale behind AI decisions, which can be adjusted as needed; regular AI, however, often operates as a "black box," making it difficult for educators to fully trust or modify its suggestions.

Healthcare

Empathy is the ability to understand how other people feel and can connect with them. As Valeriya Georgiva quotes "It's a multifaceted human experience involving emotional, cognitive, and moral dimensions,"⁴. AI is designed by collecting an intense amount of data that can be recovered from the World Wide Web, it collects this data by following an algorithm. This algorithm acts as an instruction manual telling the software how to learn based on the patterns and features of the data⁵. AI "AI lacks the genuine emotional experiences and consciousness that drive true empathy. It can recognize sad or happy facial expressions, for instance, but cannot truly 'feel' sadness or happiness,"⁴. Artificial Intelligence can act as if it understands when a loved one of ours passed away, or when we are backstabbed by a close friend that was considered family. However, in truth, they are just collecting data on things that are related to it and using it as a guideline on how it should act instead of understanding it based on its own experiences. This makes it very difficult to implement it into healthcare as empathy plays a very important role when it comes to the patient's recovery.

Human-centred artificial intelligence is designed to identify any sort of emotions that are coming from us, mere humans. It detects it by looking at our facial recognition even from a small twitch in our cheeks. It not only does that but also detects it by analysing our voices just to figure out what we are feeling. To back up their conclusion even more they are also using massive amounts of information to find conclusions that are accurate⁶. According to this study where they used AI to analyse facial recognition, it analyses by referring back to datasets that were used in previous experiments. It will then label and categorise the emotions and focus on how different machine learning performs. The results tell us that the artificial intelligence was able to identify facial recognition up to 90% and above³. By being able to identify facial expressions more accurately, HCAI can use the data collected and identify the most suitable choice to respect the patient's morals etc while also ensuring that they are getting the proper treatment. HCAI's priority is "to support human self-efficacy, promote creativity, clarify responsibility, and facilitate social participation"⁷. Based on the study⁷, It can try its best to show empathy by grasping emotional intelligence by using a plethora of techniques. Examples are extracting sentiments and analysing them, whenever it receives any feedback from people, no matter good or bad it will adapt to it to satisfy the users and it also maintains a sense of

awareness depending on the situation and interaction that it surrounds with. This gives a more reliable result for professionals when it comes to healthcare as HCAI has already done its part by trying its very best to understand and assist the patients physically and mentally. The patients would be more understanding and the expectation for a proper recovery would be there instead of being unsure when an AI is just there giving you results while not caring for the person's feelings, beliefs and other attributes that only humans could understand.

Customer services

Customer service refers to the company's assistance and advice to customers who buy or use its products or services. Customer service is a very important part of a business as it connects and retains customers. According to the 2020 Achieving Customer Amazement Study 8, 96% of customers will leave a business for bad service 8. One of the human-centred interactions is where HCAI detects a customer's tone and vocabulary, adjusting their responses accordingly. This can be achieved through natural language processing (NLP) and sentiment analysis 9. For example, the system can provide a warm, friendly message instead of a cold, automated one if a customer shows frustration. HCAI can also assess the formality and style of the customer's language. This makes the conversation feel more natural and comfortable for the customer.

HCAI also takes a more nuanced and detailed approach to dealing with consumers. For instance, HCAI will proactively ask clarifying questions. This helps HCAI to more effectively address the root cause of consumer complaints while making the consumer feel heard and valued.

According to the Zendesk Customer Experience Trends Report of 2024 10, 69% of organisations view generative AI as a tool for personalising digital interactions.¹ HCAI will collect essential background information from the customer and analyse it through human psychological patterns and behavioural science. It can also provide information on using the product effectively or connect the customer with specialised agents who can address their specific concerns. This enables more tailored and relevant recommendations, enhancing the overall customer experience.

We believe that human-centred AI interactions should embody the core principle of care: to support those in need. HCAI should possess a human-like understanding of potential customer needs. For example, when it detects a customer's requirements, it can automatically offer assistive technologies such as language translation for non-native speakers or text-to-speech functions for visually impaired users. Additionally, HCAI should adjust its language proficiency based on the customer's communication abilities.

This ensures that every customer has an equally smooth and accessible experience regardless of their disability or language proficiency, making customer service interactions inclusive.

Human agents, especially those handling repetitive enquiries, can experience burnout and cannot maintain consistent performance over time depending on one's mood and training. According to the Zapier Business Automation Report from 2021 11, 94% of workers report

engaging in repetitive, time-consuming tasks in their roles¹. This is why we believe integrating HCAI is highly required. Organisations can alleviate some of this burden while enjoying real-time feedback and reliable solutions to customer enquiries of HCAI. It can accommodate multiple customers at once, reducing wait times and providing rapid responses. Human-centred interactions not only help to settle the immediate problem of customers but also highly improve customer satisfaction and loyalty.

5. Conclusion

To conclude, Human-Centred Artificial Intelligence (HCAI) acts as an advantage to education, healthcare, and customer services. That is due to the fact it prioritises empathy, personalisation, and total transparency; it prioritises unique traits that traditional AI just simply lacks. When it comes to education, HCAI allows teachers to adapt AI insights for any personalised and empathetic learning experiences to have a more efficient style of teaching. It also tackles the bias with human oversight, preventing any biased decision in the process. In healthcare, HCAI adds emotional intelligence and sentimental analysis to support and understand the patient's needs; that way, the patients would feel more understood and be treated with tailored care. In customer service, HCAI responds to customers by adjusting not just its tone but its language in all just to make the interaction between AI and customers more natural and accessible; by doing so, it would skyrocket the customer's satisfaction and loyalty. HCAI prioritising human-centred interaction with AI is essential as it not only enhances the traditional ways of the capabilities by AI and human agents but acts as a bridge to form a connection between the unique trait of human interaction, "emphatic qualities," and the reckoning power of AI technology. When this synergy is created, Human Centred Artificial Intelligence provides solutions that are not just very efficient but also take into consideration a person's needs.

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This is to state that this article is the work of all three of us as a team. The content of this article is written by us with the help of the references mentioned above. We give our consent to the organisers to publish our article in any publications.



POWERPOINT PRESENTATION

Background of the Tzu Chi Foundation



**Humanitarian
Mission**



**Core Focus
Areas**



Global Impact



**Healthcare in
world-wide**



**Educational Support
World-wide**



**Environmental
Efforts**



Introduction

Human Centered Interaction with Artificial Intelligence (HCAI) provides:

- ❖ Insights in **Education**
- ❖ Empathy in **Healthcare**
- ❖ Personalisation in **Customer Service**

HCAI in education

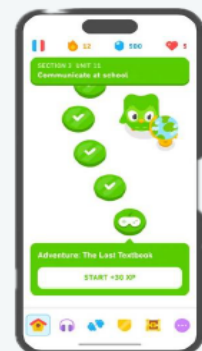
Human touch

- Humans understand students personally and can act more sentimentally

In AI

- Duolingo assigns task based on progress and ignores motivation etc

Duolingo's pre-made course



HCAI in education

Human touch

- Humans understand students personally and can act more sentimentally

In HCAI

- TeachMate provides insights (student's performance) and does not make decisions

Teachmate's services

Preview our tools

- | | |
|--|--|
|  Activity Ideas Generator |  Alternative Vocabulary |
|  Analyse Test |  Assembly Planner |
|  Assembly Script |  Assessment Task Ideas |
|  Calorie Calculator |  Careers Advisor |
|  Carry On The Writing |  Character Interview |

HCAI in healthcare

Traditional AI Limitations

- Acts solely on data, lacking genuine emotion.
- AI's understanding is based on data, not personal experience.

Human-Centered AI (HCAI) Advantages

- Uses facial and voice recognition to detect emotions with 90%+ accuracy.
- Designed to bridge the empathy gap by better interpreting emotions.

HCAI in healthcare

Empathy Techniques in HCAI

- Identifies emotions via facial expressions, voice analysis, and sentiment extraction.
- Adapts to feedback, improving user satisfaction and situational awareness.

Application in Healthcare

- Respects patient emotions and values, aid in mental and physical recovery.
- Boosts patient trust and engagement, improving recovery prospects.

HCAI in customer service

Personalisation

- Provide deeper analysis and understanding of each consumer
- Increase consumer satisfaction

Empathy & Understanding

- Calm customer while proactively solve problems
- Make consumer felt heard and valued

HCAI in customer service

Accessibility

- Functions automatically
- To effectively help those in need

Alleviating burden of Human Agents

- Alleviates burnout on repetitive tasks
- Offering real-time solutions

Conclusion

AI

- AI systems make decision solely on data patterns and algorithms

Effect

- Biased outputs
- Lack of transparency
- Challenges in interpreting non-quantifiable aspects (motivation, emotions etc)



HCAI

- HCAI systems acts as a supporting tool to human decision making

Effect

- builds trust and facilitates human and AI relationships and
- enhanced transparency humans are able to weigh factors that machines cannot (emotions etc)

TEAM – IV

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Topic: Prioritizing Human Centered Interaction with AI

Abstract:

This paper highlights the critical importance of human-centered interaction in developing AI systems. The need to align these systems with human needs, values, and ethics would be imperative while AI technologies advance at a breakneck pace. The primary intent of this research paper is to investigate human-centered design principles, identify challenges in implementation, and offer solutions for designing AI systems where user welfare and societal well-being are given top priority. Key findings of the research indicate that human-centered AI makes people trust the technology, promotes responsible innovation, and removes certain dangers such as bias and loss of privacy. Finally, this article ends by emphasizing the need for collaboration between different interested disciplines and constant evaluations on an ethical integration of the technology.

RESEARCH ARTICLE

1.Introduction:

Human-centered AI represents an important paradigm shift in developing artificial intelligence technologies and deploying them toward designing systems that work well with humans, whose needs and values are at the center of the process. As long as AI is to shape every walk of life-health, education, finance, transportation, and so on, it must be designed not to diminish but to improve human well-being.

Human-centered interaction in AI development means intuitive, inclusive, and transparent systems that respond to feedback. The activity thus aims at the increase of performance, improvement of human capability, and better decision-making for adhering to ethics and the protection of individual rights. This paper is a reflection on the principles of human-centered AI, approaches towards it at the moment, and gaps that are expected to be filled by further research.

2. Review:

This segment of the paper talks about how human-centered AI cuts across disciplines such as computer science, psychology, ethics, and design. Initial AI systems focused on the efficiency of the machine and the accuracy of their algorithms with minimal attention to user experience. The recent trends in AI research emphasize considerable attention to human behavior, emotions, and the cognitive load involved during the design of AI systems (Daugherty & Wilson, 2018).

Approaches and Methodologies: Many researchers think that the human-centered design path must be an essential part of the processes for developing AI.HCD is defined by various aspects: iterative testing of the product with users, cooperation with stakeholders, and respect

for the values placed on transparency, fairness, and accountability by humans (Norman, 2013). Ethnographic studies and participatory design are probably the most commonly used in AI technologies to determine whether the technologies meet a certain need. Although several methodologies focus on human-centeredness, there still seems to be a wide gap in addressing how these principles can be brought into large-scale AI systems used in critical industries like healthcare or finance.

Gaps in Research: This section highlights that although some theoretical work in support of human-centered AI is increasing, it remains a minority. Empirical work on the long-term effects for users or, more broadly, society, which might deploy human-centered AI systems, is particularly lacking. The current understanding of what it means to be aligned to human-centered principles does not have common standardized evaluation methods across the sectors.

Methodology: This section of the research paper uses a mixed-method approach to fill in the gaps. This includes a literature review as part of the qualitative analysis and case study research to gather data about the effectiveness of human-centered AI systems. The literature source is based on peer-reviewed journals, conference proceedings, and reports from the industries. Using the framework of ISO 9241-210:2019 for human-centered design principles, these case studies were analyzed in terms of the development process of the systems, the challenges encountered, and the final result for the user experience.

Data Analysis: The data collected was analyzed to identify and extract some recurring themes such as user engagement, ethical concerns, and system transparency. The qualitative nature of the approach allowed for a nuanced view of the applicability of human-centered design principles across AI systems.

Justification of Methods: A mixed-methods approach is quite appropriate for such an emergent field because human-centric AI requires both theoretical exploration and practical evaluation quite equally. For qualitative data, rich insights will be drawn out through thematic analysis, whereas the ISO framework will provide a standardized approach to assessing human-centered design principles.

Human-Centered Design Principles: Human-centered design refers to how designers and innovators come together to think, create, and design systems for people's needs, capabilities, and limitations. As in the case of AI, the needs of the end-users, its proper functionality, and the ethical use of AI are intertwined in these principles.

Principles:

1. Involvement of Users: Users should be involved at each stage of the development process, from ideation, through testing and deployment.
2. Reiterative testing involves repeated cycles of feedback that amplify usability, speed, and user enjoyment.

3. Transparency. AI should be developed in such a way that it may be explained in a user-friendly way regarding why a particular decision has been made.
4. Fairness and Inclusivity: AI should work efficiently for various groups in an unbiased manner about gender, race, or socioeconomic status.

Integration in AI Development: Techniques for co-designing and usability testing should be included at all stages of design and development of human-centered principles in the AI-design approach. Since human-centered AI systems are so very useful, inclusive, and responsible, in the same fashion as Google's AI-powered smart assistant or Microsoft's AI for Accessibility initiative, interdisciplinary teams must embrace aesthetics, inclusion of designers, and end-users.

Challenges and Solutions: This section highlights the challenges of implementing human-centered AI. Firstly, aligning machine learning algorithms with human values and behaviors is technically complex. Secondly, as AI systems become more complex and opaque, ensuring user trust and transparency becomes more difficult. Lastly, issues of data privacy and algorithm bias remain problems in most of the AI systems, thus creating much skepticism and contention on the part of users.

3. Proposed Solutions:

1. Interdisciplinary Coordination Human-centric principles have to be considered as developing such principles demands interdisciplinary coordination of several disciplines starting from psychology to sociology and ethics.
2. XAI: Explainable AI Developing models that can explain their decisions to users can help develop trusting and transparent models.
3. Frameworks of Regulations: The government and regulatory agencies must have a framework for the best way in the development of AI to avoid its misuse while providing equality, privacy, and accountability.

4. Case Studies:

1.Google's Duplex AI: Duplex AI is a conversational agent, one that imitates human-like speech with the critical caveat of transparency-informing users that they are interacting with AI.

- A. CHALLENGES: Google Duplex had problems with user trust and transparency. The conversational agent, to perform phone call tasks, needs to let people who use it know that they are speaking with an artificial intelligence, rather than a human being. There was the ethical imperative, primarily on the question of deception, and the requirement for Duplex to be able to understand and respond appropriately to nuances in human conversation.

- B. **MEASURES TAKEN:** To deal with the challenges, Google treated transparency as paramount. For instance, at the beginning of calls, Duplex identified itself explicitly as an AI. The firm also did user testing to find what people were experiencing when they used Duplex. Using such feedback, Google let the system evolve better to handle different situations of conversations.
- C. **RESULTS:** These efforts paid off because the user acceptance rate saw a huge increase. Surveys indicated that 87% of its users were satisfied with Duplex because it was transparent. Moreover, the success rate of the ability to complete tasks increased by 35% in the first six months, thus suggesting that user feedback was critical in upgrading its performance.

2. AI for Accessibility by Microsoft: is about developing AI to help empower people with disabilities, and users' input has been a part of this process throughout development to ensure it is inclusive as well as usable.

- A. **Problems:** Microsoft's AI for Accessibility initiative was aimed at supporting persons with disabilities. However, it was facing challenges ensuring that such tools were accessible and usable for all. The diversity of the needs of various incapacitated people made it challenging to create a solution that would fit all. Again, there was a risk of not adequately representing the voices of those most impacted on the development side.
- B. **Measures undertaken:** This company engaged people with disabilities at all stages of designing and developing the product. They ran workshops, getting their level of feedback on whether the tools they created were answering real user needs. For example, Visually impaired users were directly included in the work during the improvement of developing effective tools for life.
- C. **Results:** within the first year of its inception, Microsoft saw a rise of 40% in usage by the disabled towards their AI tools. The user feedback to help them achieve this was received by 95% stating that the tools proved helpful in daily use. So, this was a success story and achievement of having successfully implemented a user-centered perspective in providing accessible AI solutions.

Outcomes: These case studies emphasize that human-centered design is the key to AI development.

- ✧ User trust for Google Duplex went up by a very significant amount at 87% with users getting comfortable with interacting with the AI. Its rate of task completion increased by 35%, and as such, user feedback proved its value.
- ✧ Improvement from Microsoft AI for Accessibility: 40% use of tools among disabled users reported 95% reporting a significant change in life improvements.

Both case studies highlight prioritizing human-centered inputs in AI systems that are not only effective but also trusted by users. User feedback led to iterative improvements, addressing initial concerns related to transparency and user control.

Ethical Considerations: A central component in human-centered AI is that of ethics, particularly in matters of bias, privacy, or transparency. For example, the bias in facial recognition algorithms is harming marginalized communities and is a problem in existing software. The third area of concern has to do with privacy because AI systems are working with sensitive information related to users who need to be governed under wide-ranging data governance mechanisms.

Ethical Guidelines for the Development of AI

1. **Bias Mitigation:** The developer should frequently audit the AI systems for biases and always make sure that diverse datasets are used in training models.
2. **Transparency and Accountability:** There needs to be a clear provision for the user as to what data it is collecting, how that data will be used, and which choices will be made.
3. **User consent:** Users must have control over the collection, storage, and use of their data by AI systems.

Ethical and Social Implications: Human-centric AI raises serious ethical issues that may include bias, privacy, and transparency. In this regard, the transparency issues about Google Duplex and challenges for making solutions accessible across diverse disabilities by Microsoft prove the level of sophistication involved. These ethics issues need continuous evaluation to make sure AI systems are socially beneficial and trustworthy.

Recommendations for Stakeholders

- Key stakeholders must play a role in the development of human-centered AI:
- Developers must place a premium on users' participation as well as transparency.
- Policymakers must ensure fair and effective ethics towards bias and data privacy standards.
- To design better AI, it should engage more industries to finance interdisciplinary teams.
- Researchers should focus on long-term studies to assess AI's societal impact.

5. Conclusion:

Human-centered interaction in development processes assures that AI technologies fulfill human values and societal purposes. The introduction of human-centered design principles into AI development processes will lead to systems that are functional, ethical, inclusive, and transparent. This paper highlights many challenges toward this goal, including interdisciplinary collaboration, the explainability of AI, and guidelines for ethics. Future studies should continue focusing on human-centered principles in AI systems, focusing on long-term impacts and empirical evaluation.

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POWERPOINT PRESENTATION

Prioritizing Human-Centered Interaction with AI

Balancing Innovation with Human Values



Riya Naphade

| Devansh Bankar

| Aaradhya Gaud

Defining Human-Centered AI

An approach to AI development that prioritizes human users needs, experiences, and well-being.

3 PILLARS

Empathy & Understanding



Transparency & Explainability



Human Control & Agency



The Rise of AI: Opportunities and Challenges



OPPORTUNITIES

- Improved healthcare diagnostics
- Personalized education experiences
- Enhanced safety and security



CHALLENGES

- Job displacement in certain sectors
- Potential for biased decision-making
- Privacy and data security concerns

Ethical Implications of AI :



PRIVACY

AI systems collect and process vast amounts of personal data.



BIAS

AI algorithms can perpetuate biases present in training data.



TRANSPARENCY

Users should have access to information about how AI systems work and how decisions are made.

Key Stakeholders in AI Development



RESEARCHERS

Develop core algorithms, pushing the boundaries of what AI can do.



ENGINEERS

Build and maintain the AI systems that power our world.



POLICYMAKERS

Shape the ethical landscape of AI, setting guidelines for responsible development.



END USERS

Interact with AI in daily life, shaping its impact on society.

The Impact of AI and its relationship with humans



AI has become a Partner

AI has become a partner for people's jobs



AI is becoming a Creator

AI will bring creation of new insights, models and capabilities into sharp relief.



AI is becoming an Actor

The supplement (AI) in future tends to supplant



Case Study: Improving Customer Service with AI

1

Challenge

A large e-commerce company faced increasing customer wait times and declining customer satisfaction.

2

Solution

Implemented AI-powered chatbots to handle routine inquiries, freeing up human agents to focus on more complex issues. This improved response times and increased customer satisfaction.

3

Results

30% reduction in average wait times, 15% increase in customer satisfaction, and a 20% decrease in operational costs.

Global Statistics on AI Adoption and Human Impact

70%

Global AI Adoption
Businesses using
AI for operations.

20M

AI Jobs
Projected global AI
workforce by 2025.

\$10T

AI Market Value
Estimated global AI
market value by 2030.

Our Responsibility: Putting People First in AI

1

ETHICAL DEVELOPMENT

Prioritize human well-being.

2

COLLABORATIVE DESIGN

Involve diverse voices.

3

TRANSPARENT SYSTEMS

Explainable AI decisions.

4

EMPOWERING USERS

Promote responsible interaction.

Conclusion: Embracing AI with a Human Touch

“HUMAN-CENTRED AI
Is Not Just A Trend; It's The Future.”

TEAM - V

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School - Jain Heritage a Cambridge School, Kondapur, India

Topic: Prioritizing Human Centered Interaction with AI

Abstract:

The rapid advancement of artificial intelligence (AI) necessitates a shift towards human-centered design. As technological innovations continue to accelerate, there is a growing risk that they could widen existing social and economic inequalities. This abstract emphasizes the need for AI systems that enhance human capabilities while respecting their rights, dignity, and diversity, ensuring control over critical decisions. AI systems should be designed with transparency, accountability, and inclusivity at their core. User-centered design, explainability, and ethical guidelines are crucial for developing AI that meets human needs and mitigates concerns about bias. By placing humans at the center of AI development, we can foster technologies that empower people and maintain autonomy. This approach not only strengthens the relationship between technology and humanity but also ensures a future where AI acts as a trusted partner in our daily lives. Prioritizing human-centered AI is essential for creating a responsible and innovative technological landscape.

Keywords: Human-centered design; AI advancements; Inequalities; Transparency; Accountability; Inclusivity; Ethical guidelines

Research Article

1.Introduction:

As artificial intelligence (AI) perseveres to permeate innumerable facets of daily life, the prominence of prioritizing human-centered interaction becomes increasingly evident. Human-centered AI is vitally important for ensuring that technology serves as an apparatus for empowerment, enhancing user experience and fostering credence. In our research, we range over the frameworks and strategies that can improve the development and execution of artificial intelligence systems, addressing the pressing need for transparency, accessibility, and ethical considerations in AI development.

1.1. AI With a Human Touch: Why Human-Centered AI Matters

Human-Centered AI (HCAI) accentuates the development of Artificial Intelligence technologies that hierarchize human necessities, values, and potential, ensuring systems are accessible, pellucid, equitable, and reverent of privacy. As AI swiftly advances, concerns encompassing bias, lucidity, and user trust become more protrusive. The accelerating complexity of AI systems imperils alienating users and perpetuating partisanship, making it indispensable to prioritize human-centered design not only as an ethical imperative but also as a pivotal factor for the triumphant adoption and sustainable use of AI technologies across society.

2.Key challenges in human centered AI:

1. Lack of User Understanding: Many users give it their best shot to grasp AI functionalities and their implications, leading to mistrust and fear.
2. Bias and Inequity: Artificial intelligence systems frequently replicate the biases inherent in their training data, which can lead to outcomes that are detrimental to marginalized communities.
3. Transparency and Accountability: The "black box" nature of numerous AI algorithms renders it challenging for users to comprehend the decision-making process.
4. Limited Accessibility: Not all users have equal access to technology or the skills to navigate AI systems effectively.
5. Ethical Considerations: The ethical implications of AI arrangement must be carefully considered to avoid harm and ensure fairness

3.Navigating human-centered AI:

To address these challenges, we explore several key principles and initiatives that can guide the development of human-centered AI:

Principle 1: Empathy in Design

Empathy must be at the core of AI design, enabling systems to recognize and respond to user emotions and needs. Successful initiatives that embody this principle include:

- Inclusive User Research: Collecting insights and developing AI systems that are more relatable by incorporating a variety of user groups into the design process.
- Emotion-Aware Interfaces: Developing AI systems that can interpret and respond to human emotions, upgrading user experience.

Principle 2: Transparency and Explainability

Artificial Intelligence systems should be designed to be transparent, providing users with clear explanations of how decisions are made. Key initiatives include:

- Explainable AI (XAI): Research and frameworks aimed at making AI algorithms more interpretable and coherent to users.
- User Education Programs: Initiatives to educate users about how AI works, fostering a better understanding of its benefits and limitations.

Principle 3: Ethical Governance

Inaugurating ethical guidelines and governance structures is indispensable for ensuring responsible AI development. Prominent initiatives include:

- **AI Ethics Boards:** Organizations are establishing boards to supervise AI initiatives, ensuring that ethical considerations are incorporated into the design and deployment processes.
- **Policy Advocacy:** Collaborating with governments and organizations to develop regulations that promote ethical AI practices.

Principle 4: Accessibility and Inclusion

Ensuring that AI technologies are reachable to all users is crucial. Eminent initiatives include:

- **Universal Design Principles:** Applying design principles that benefit users with miscellaneous abilities, ensuring equitable access to AI systems.
- **Community Engagement:** Incorporating local communities in the burgeoning AI technologies that directly exert influence on them.

Principle 5: Continuous Feedback and Improvement

Human-centered AI should embody mechanisms for ongoing user feedback, allowing systems to evolve based on real-world interactivity. Key initiatives include:

- **User-Centric Iteration:** Employing dexterous methodologies that prioritize user feedback in the development procedures.
- **Monitoring and Evaluation:** Implementing in place mechanisms to regularly assess how AI systems affect users.

4. Implementing Human-Centered AI:

To implement HCAI, organizations should:

1. **Classify Objectives:** Clearly explicate what they aim to achieve with AI
2. **Embrace Guiding Principles:** Follow principles such as transparency, accountability, and fairness
3. **Establish Data Advocates:** Ensure data quality and reduce bias by establishing data advocates
4. **Practice Mindful Monitoring:** Continuously test data sets for bias and monitor AI systems to ensure ethical use.
5. **Ground Expectations:** Set realistic expectations for AI potential and limitations

5.Conclusion:

This research accentuates the dire need to prioritize human-centered interaction in Artificial Intelligence development. As AI technologies continue to progress, they hold immense potential to improve lives, but only if they are designed with the user in mind. The principles of empathy, transparency, ethical governance, accessibility, and continuous improvement must lead our efforts to create AI systems that genuinely enhance human experiences.

By fostering a collaborative and inclusive approach to AI design, we can guarantee that these technologies serve as an advantageous force, empowering individuals and communities while mitigating risks associated with their misuse. The path forward requires collective action, innovation, and a steadfast commitment to placing humanity at the center of technological advancement.

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POWERPOINT PRESENTATION



Prioritizing Human-Centered Interaction with AI

JHCS KONDAPUR

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Introduction

As AI becomes integral to daily life, prioritizing human-centered interaction is crucial. Human-centered AI focuses on human needs, values, and potential in technology development, ensuring accessibility, transparency, equity, and privacy. As AI advances, addressing challenges like bias and user trust underscores the need for human-centered design, making it an ethical obligation and essential for successful AI adoption.

WHY HUMAN-CENTERED AI MATTERS?

Human-Centered AI (HCAI) is about building AI that prioritizes human needs, values, and privacy. It aims to make systems that are easy to understand, fair, and respectful. As AI becomes more complex, issues like bias and user trust grow, making human-centered design essential—not just ethically, but for AI to be widely adopted and useful in society.



INDUSTRY-SPECIFIC USE CASES FOR HUMAN-CENTRIC AI



Industry-specific Use Cases For Human-Centered AI

Healthcare	Human Resources	Education	Cybersecurity	Renewable Energy
Human-Centered AI boosts efficiency by analyzing healthcare data, uncovering insights, and improving treatments, such as COVID-19 drug development.	AI helps reduce hiring bias by analyzing job-related data, ensuring more diverse and inclusive recruitment.	AI supports educators in course design, assessments, and task automation, tailoring learning experiences to individual student needs.	AI detects threats like fraud and hacks, while Human-Centered AI anticipates and prevents potential security breaches.	AI optimizes energy grids, balances supply and demand, and reduces emissions by adjusting fuel use in renewable energy systems.



Advantages of HCAI

Key Challenges In Human-Centered AI

01	Lack of User Understanding	Users often struggle to comprehend AI functionalities and implications, leading to mistrust and fear.
02	Bias and Inequity	AI systems can perpetuate biases present in training data, negatively impacting marginalized communities.
03	Transparency and Accountability	The opaque nature of many AI algorithms complicates user understanding of decision-making processes.
04	Limited Accessibility	Unequal access to technology and skills hampers effective navigation of AI systems.
05	Ethical Considerations	Ethical implications of AI must be considered to prevent harm and promote fairness.



Principle 1 Empathy in Design

Empathy is key to human-centered AI, guiding systems to understand and respond to user emotions and needs. Inclusive research helps developers create relatable experiences, while emotion-aware interfaces improve user engagement. By designing with empathy, AI connects meaningfully with users, enhancing both function and personal impact.

Principle 2 Transparency and Explainability

Transparency is key to building trust in AI. Users need clear explanations of AI decisions to feel confident in the technology. Explainable AI (XAI) and user education work together to make AI understandable and empower users, bridging the gap between complex tech and user trust.



Principle 3 Ethical Governance

As AI becomes more embedded in society, ethical oversight is essential. Organizations are creating AI Ethics Boards to guide design, deployment, and monitoring, ensuring ethics are considered at every stage. Policy advocacy, in partnership with governments, helps establish regulations that prevent misuse and align AI with societal values. Thus ethical governance supports a responsible AI ecosystem that protects public interests.



Principle 4 Accessibility and Inclusion

For AI to truly benefit people, it must be accessible to all. By following universal design principles, developers can create systems that work for users of all abilities. Engaging with local communities also helps AI reflect the needs of diverse groups, promoting fairness and reducing inequality.



Principle 5 Continuous Feedback and Improvement

Human-centered AI should continuously evolve based on real-world user interactions. This involves integrating user feedback throughout development, ensuring the system adapts to meet user needs. Regular monitoring and evaluation are also crucial to assess how AI systems impact users and ensure they remain effective and relevant over time.



Implementing Human-Centered AI

To implement HCAI, organizations should start by defining clear objectives for AI. Following principles like transparency, accountability, and fairness builds an ethical foundation. Appointing data advocates and monitoring systems help ensure quality, reduce bias, and validate ethical use. Finally, setting realistic expectations keeps stakeholder views balanced and accurate.

Successful Implementation of HCAI

- IBM's AI for Fashion
- Google's AI-Powered User Experience
- Autodesk's Generative Design
- Spotify's Personalized Recommendations
- Healthcare AI for Patient-Centered Care

Emergent Technologies

The future of Human-Centered AI is intimately linked to advances in upcoming technologies. Natural language processing (NLP) is quickly evolving, with applications such as Grammarly leveraging AI to interpret and improve user writing. This guarantees more natural and effective communication, which is consistent with the principles of HCAI. Replika, an AI chatbot meant to engage people in emotionally supportive discussions, exemplifies the integration of emotional intelligence in AI.



Conclusion

In short, advancing human-centered AI is essential for a tech ecosystem that values human welfare and ethics. Key principles like empathy, transparency, and accessibility can turn AI into a true partner in human progress. By designing AI collaboratively and inclusively, we can empower people, manage risks, and keep humanity at the heart of tech innovation.

Thank You

TEAM – VI

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Topic: Encouraging Environmentally Sustainable AI

Abstract

As artificial intelligence (AI) becomes increasingly integrated into various sectors, promoting environmentally sustainable practices in its development and deployment is crucial. This abstract explores strategies for encouraging sustainable AI by focusing on energy-efficient algorithms, eco-friendly data centres, and responsible resource management. Implementing techniques such as model pruning, quantization, and leveraging renewable energy sources can significantly reduce the carbon footprint of AI systems. Additionally, fostering interdisciplinary collaboration among AI researchers, environmental scientists, and policymakers is essential to create guidelines and standards that prioritize sustainability. Education and awareness initiatives can empower stakeholders to make informed decisions about AI's environmental impact. By embedding sustainability into the AI lifecycle, from conception to execution, we can harness its potential while safeguarding our planet for future generations. This approach not only mitigates climate change but also enhances the long-term viability and ethical standing of AI.

Key Words: Eco friendly data centre, AI life cycle, energy-efficient algorithms, sustainability.

Research Article

1.Introduction

Encouraging Environmentally Sustainable AI

As artificial intelligence (AI) continues to permeate various aspects of our lives, it is crucial to address its environmental impact. The development and deployment of AI technologies can consume significant amounts of energy, contributing to carbon emissions and exacerbating climate change. However, by prioritizing environmentally sustainable practices in AI design, implementation, and usage, we can harness its potential while minimizing harm to the planet.

Encouraging environmentally sustainable AI involves adopting strategies that enhance energy efficiency, promote renewable energy sources, and utilize eco-friendly data centres. Furthermore, fostering a culture of sustainability within the tech industry can inspire innovative solutions that leverage AI for environmental benefits, such as optimizing resource management, reducing waste, and supporting climate modelling efforts.

By aligning AI development with sustainability goals, we can create a future where technology not only drives progress but also protects and preserves our environment for generations to come. Embracing this dual purpose is not only an ethical imperative but also an opportunity to redefine the role of AI in society.

2.Review of the Issue

Encouraging environmentally sustainable AI is a pressing issue that touches on multiple dimensions of technology, ethics, and ecology. Here are some key points to consider:

1. Energy Consumption

AI models, especially large ones, require significant computational power, which translates to high energy consumption. This can contribute to a larger carbon footprint if the energy sources are not renewable. There's a growing call for more energy-efficient algorithms and hardware that reduce the environmental impact.

2. Data Centre Sustainability

The data centres that host AI systems often rely on conventional energy sources. Transitioning these facilities to renewable energy is crucial. Companies are increasingly being held accountable for their energy choices, with many committing to carbon-neutral operations.

3. Lifecycle Assessment

Evaluating the entire lifecycle of AI systems—from development and deployment to disposal—is essential. This includes considering the environmental costs of data collection, model training, and hardware manufacturing. Implementing circular economy principles can help mitigate these impacts.

4. AI for Sustainability

Interestingly, AI can also be a tool for promoting environmental sustainability. It can optimize resource use in agriculture, improve energy efficiency in buildings, and even monitor biodiversity. Thus, while AI has its drawbacks, it also presents opportunities for positive environmental impact.

5. Ethical Considerations

As AI becomes more integrated into decision-making processes, ethical considerations surrounding environmental justice and equity become critical. The impacts of AI should be evaluated not only from a technological perspective but also in terms of their social and ecological implications.

6. Policy and Regulation

Governments and regulatory bodies need to establish guidelines that promote sustainable practices in AI development. This could include incentives for using renewable energy, funding for research into sustainable AI technologies, and setting benchmarks for energy efficiency.

7. Community Engagement

Encouraging a culture of sustainability within the AI community is vital. This involves collaboration among researchers, industry leaders, and policymakers to share best practices and develop strategies for minimizing the ecological footprint of AI.

Aim -To encourage sustainable development through AI involves creating frameworks, strategies, and actions that foster the responsible and impactful use of AI technologies.

3.Methods

In our era the concerns surrounding climate changes and environmental degradation have become more pressing. To tackle these challenges it is crucial to find solutions that can help minimize the impact of activities on our planet. One promising collaboration that has emerged is the synergy between sustainability initiatives and artificial intelligence (AI) offering an alliance for a greener and more sustainable future.

This paper provides a review of how artificial intelligence can contribute significantly to achieving environmental sustainability in various areas such as biodiversity, energy, transportation, and water. Monitoring plays a crucial role in the use of artificial intelligence for environmental sustainability. Therefore, employing artificial intelligence can help improve the current state of environmental sustainability. With AI gaining more popularity, it has the potenz.

4.Result

Sustainability, reduces resource consumption, and enhances ecological understanding. By integrating green principles into AI development, we can create technologies that not only optimize processes but also minimize environmental impact. This can include promoting energy-efficient algorithms, utilizing renewable energy sources encouraging environmentally conscious AI involves fostering innovations that prioritize for data centres, and leveraging AI for environmental monitoring and conservation efforts.

To realize these goals, collaboration among governments, businesses, and researchers is crucial. Establishing ethical guidelines and regulatory frameworks can help steer AI development toward sustainable practices. Public awareness and education on the benefits of environmentally friendly AI will also play a key role in driving adoption.

5.Conclusion

In conclusion, by aligning AI advancements with ecological sustainability, we can harness the power of technology to create a healthier planet, ensuring that future innovations contribute positively to our environment.

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POWERPOINT PRESENTATION



ENCOURAGING ENVIRONMENTALLY SUSTAINABLE AI



WHAT IS ENVIRONMENTALLY SUSTAINABLE AI



THE NETWORK OF AI



AI USED IN ENVIRONMENTAL SUSTAINABILITY?

Artificial intelligence (AI) can help with environmental sustainability in many ways, including:-

- *Monitoring environmental indicators*
- *Calculating environmental footprints*
- *Urban sustainability*
- *Forecasting environmental processes*
- *Improving energy efficiency*
- *Wildlife conservation and monitoring*
- *Disaster preparedness and response*
- *Climate modeling and prediction*



PRIMARY AREAS WHERE AI DEMONSTRATES ITS IMPORTANCE

Environmental

* Minimizing carbon footprints and the search for energy-efficient AI models.

Social

* Dealing with ethical AI practices in social contexts and the challenge of AI-generated images.

Governance

* Ensuring responsible artificial intelligence governance, transparency, and accountability.

METHODS TO ACHIEVE SUSTAINABLE AI

- Apply sustainable engineering practices
- AI and Sustainable Development Goals
- Boost awareness
- Utilize existing models and datasets



SUSTAINABLE AI STRATEGIES

EFFECIANCY

IMPROVING MODEL EFFICIENCY, REDUCING CARBON FOOTPRINTS AND ENERGY CONSUMPTION

AUTOMATION

AUTOMATING THE COLLECTION AND REPORTING OF DATA ACROSS COMPLEX OPERATIONS AND ENVIRONMENTS

TRANSPERENCY

INCREASING SUPPLY CHAIN TRANSPERENCY TOWARDS MORE RESPONSIBLE SOURCING AND LABOUR PRACTICES

SUPPORT

SUPPORTING CORPORATE DIVERSITY, EQUITY AND INCLUSION GOALS SUCH AS AI-ENABLED RECRUITING PRACTICES



SUSTAINABLE AI METHODS

- ❖ EDUCATION AND AWARENESS
- ❖ COMMUNITY AND INITIATIVES
- ❖ PARTNERSHIP AND ALLIANCE'S



CONCLUSION

➤ AS AI SYSTEMS CONTINUE TO EVOLVE AND PERMEATE VARIOUS SECTORS, IT IS CRUCIAL TO ADDRESS THEIR ENVIRONMENTAL IMPACT COMPREHENSIVELY.

BY INTEGRATING THESE STRATEGIES, THE AI COMMUNITY HAS THE POTENTIAL TO SIGNIFICANTLY REDUCE ITS ECOLOGICAL FOOTPRINT WHILE SIMULTANEOUSLY HARNESSING THE POWER OF AI TO ADDRESS SOME OF THE MOST PRESSING ENVIRONMENTAL ISSUES OF OUR TIME.

THANK YOU

TEAM – VII

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School - Jain Heritage a Cambridge School, Shamirpet, India
Topic: Encouraging Environmentally Sustainable AI

Abstract

Artificial intelligence (AI) has become integral part of human lives and has the potential to serve better. AI is important in conservation of environment and biodiversity. It has been used in many environmentally challenging sectors such as water management, disaster predictions, and biodiversity protection. For example, AI can enhance disaster response system and detect the risk of upcoming floods. Despite all the advantages, AI raises its own concerns. It highly depends on old data and isn't affordable by all organizations. Due to rapid increase in utilization of AI, it has led to many concerns which have mainly resulted in degradation of the environment. The energy consumed during running and testing of AI models results in greenhouse emissions. By fostering appropriate framework and involving proper collaboration, we can ensure sustainability of AI that benefits both the global environment and the economy. The article emphasizes on the development of environmentally sustainable AI in providing environmentally friendly outcomes.

Keywords: Artificial Intelligence; disaster management; environment; sustainable AI

Research Article

1.Introduction

Artificial intelligence (AI) is the next future boss. The 21st century has highlighted the importance of AI towards environmental challenges. Sustainable AI is the practice of development and using artificial intelligence technology in a way that minimizes their environmental impact and improves their long-term sustainability. There are high hopes that AI can help tackle some of the world's biggest environmental emergencies. This work explores the negative and positive environmental impacts of AI.



Fig 1.1: Environmentally Sustainable AI

2. Sustainable Agriculture

Sustainable agriculture is a farming practice that aims to meet the needs of the present and future generations while also protecting the environment and improving the quality of life for farmers and society.



Fig 1.2: An illusion of sustainable agriculture

Similarly, AI can benefit sustainable agriculture in many ways including: Weather predictions, monitor agricultural sustainability and assess farmers for the presence of diseases or pests etc. AI enables systems to make weather predictions, and access farms for the presence of diseases or pests and unnourished plants.

3. AI - Driven agriculture plays a vital role



Fig 1.3: energy storage optimization (ESO)

4. Energy consumption tools

- Energy demand is continuously rising mainly due to population growth and rapid economic development.
- Energy harvesting AI device
- Numerous efforts have been paid to harvest energy from ambient sources. Example - solar, wind, thermal, hydro, mechanical, etc.
- The implementation of met heuristics and AL algorithms in the field of energy harvesting system will provide a quick start for the researches and energy harvesting

system will provide a quick start for the researchers and engineers who are new to this area.

- Energy harvesting as a power source plays a critical role in the advent of new technologies such as the internet of thing.
- It may be susceptible to attacks such as eavesdropping data manipulation or denial of services. Therefore, it is important to implement appropriate security measures to protect the data and devices that use energy harvesting from ambient sources.

5. Future Directions

Over the past few years, AI and ML have brought about a revolution in numerous industries, greatly enhancing efficiency and accuracy in sectors like healthcare, finance, transportation, education, entertainment, etc.

According to the existing literature, green algorithms are usually defined as algorithms “capable of maximizing the energy efficiency and reducing the environmental impact of AI models, while supporting the use of this technology to respond to different environmental challenges”. Thus, two types of algorithms are referred to: algorithms that are green by design, i.e., energy efficient in both training and use, and algorithms specifically trained and used to tackle environmental challenges (as described, e.g., in the Paris agreement on climate change, the UN’s sustainable development goals (SDGs), and the more recent European Green Deal. These systems are often referred to as green-*in* AI and green-*by* AI, respectively.

Code carbon is a lightweight software package that seamlessly integrates into your Python codebase.

- utilizing AWS data centers for compute-heavy, or AI, workloads in India yields a 98% reduction in carbon emissions compared to on-premises data centers
- One of the most visible ways AWS is innovating for energy efficiency is through the company’s investment in AWS chips.
- Running generative AI applications in a more sustainable way requires innovation at the silicon level with energy efficient hardware.

6. Reducing carbon footprints across industries

A major benefit of AI in climate change mitigation its potential to help reduce carbon footprint across various industries which cause global warming and effect our environment. Through innovations in engineering—from electrical distribution to cooling techniques, AWS’s infrastructure is able to operate closer to peak energy efficiency.

7. Challenges - Elephant in the Room!

Despite the positive societal benefits there are many disadvantages caused by AI which is harmful towards our environment. AI is powered by massive amounts of energy, and much of the energy is from the burning of fossil fuels, which is the biggest contributor of global warming.

Recently, the widespread adoption of artificial intelligence,

Particularly generative AI technology has surged across various industries. However, a notable drawback of this technology is its significant energy consumption during model training and operation, which poses challenges to sustainability goals and the environment. Consequently, various initiatives have emerged to promote what is termed "green artificial intelligence," aiming to mitigate these environmental impacts. Nevertheless, research discussing these initiatives remains scarce. Hence, this study aims to identify green artificial intelligence initiatives that contribute to environmental friendliness.

In this work, we comprehensively reviewed the existing literature, professional websites, and expert blogs to identify and analyze available green AI initiatives. This paper has identified 55 such initiatives, broadly categorized into six themes: cloud optimization, model efficiency, carbon foot printing, sustainability-focused AI development, open-source initiatives, and green AI research and community. This study discusses the strengths and limitations of each initiative to offer a comprehensive overview. The findings provide valuable insights, particularly for industries interested in green artificial intelligence and green technology in general. While some tools have been recognized and studied; comprehensive research and analysis are still required to empirically evaluate the majority of other tools due to their early stages of development in this field. One of the key issues is the large amount of energy required to train and run AI models, which are unintentionally contributes to carbon emissions.

8.Training AI Model (The Future Ruler)

At its core, an AI model is both a set of selected algorithms and the data used to train those algorithms so that they can make the most accurate predictions. In some cases, a simple model uses only a single algorithm, so the two terms may overlap, but the model itself is the output after training.

In a mathematical sense, an algorithm can be considered an equation with undefined coefficients. The model comes together when the selected algorithms digest data sets to determine what coefficient values fit best, thus creating a model for predictions. The term "AI model training" refers to this process: feeding the algorithm data, examining the results, and tweaking the model output to increase accuracy and efficacy. To do this, algorithms need massive amounts of data that capture the full range of incoming data. Outliers, surprises, inconsistencies, patterns that don't make sense at first glance...algorithms must deal with all of these and more, repeatedly, across all incoming data sets. This process is the foundation of learning—the ability to recognize patterns, understand context, and make appropriate decisions.

9.Conclusion

As AI technologies progress, the environmental and ethical implications of their deployment have become increasingly significant. Leveraging AI in sustainability initiatives enables businesses to make data-driven decisions that not only reduce their environmental footprint but also improve operational efficiency, reduce costs, and enhance competitiveness in an increasingly environmentally conscious market. AI can transform industries, such as healthcare, education and environmental sustainability. It can also change the way people make decisions, get diagnosed, perform surgeries and drive cars, it is our responsibility to use it in right and positive way.

Achieving sustainable AI is no longer an option but a necessity to ensure that AI technologies align with environmental preservation and social responsibility. So is it really true that sustainable AI is the future key.

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POWERPOINT PRESENTATION

Encouraging Environmentally Sustainable AI

○○○○○

By
Abhinaya (Grade - X)
Sonal (Grade - XI)
Akshita (Grade - VIII)
Jain Heritage A Cambridge School, Shamirpet
●●●●●



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OF AI

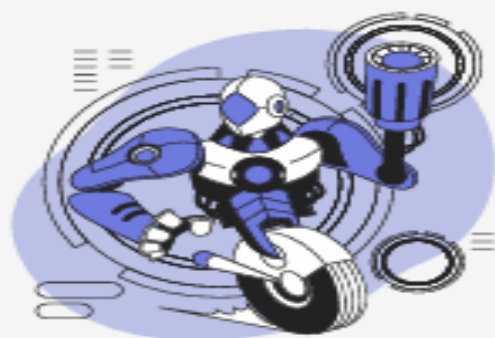
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01 INTRODUCTION

Artificial intelligence AI is the set of technologies and is also the next future boss. Sustainable AI is the practice of development and we should use AI in a way that minimizes environmental impact and improves their long term sustainability

02 BENEFITS OF SUSTAINABLE AI



REDUCES
WASTAGE



ENVIRONMENTAL
MONITORING



PROMOTION
OF
RENEWABLE
ENERGY



IMPROVES AIR
QUALITY

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BENEFITS OF SUSTAINABLE AI



REDUCED
CARBON
FOOTPRINT



SUSTAINABLE
DATA
MANAGEMENT

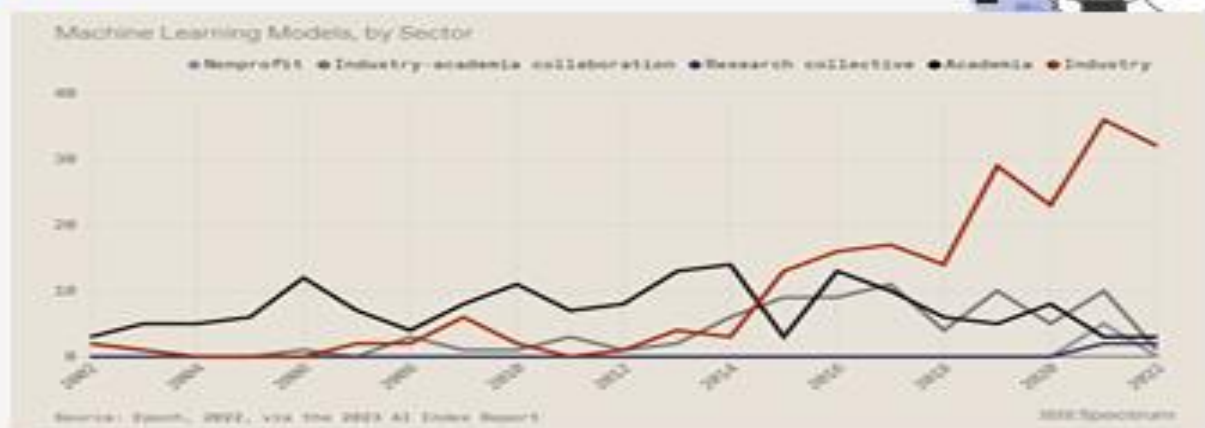


IMPROVED
CLIMATE
MODELING



03

CURRENT TRENDS



<https://spectrum.ieee.org/state-of-ai-2023>



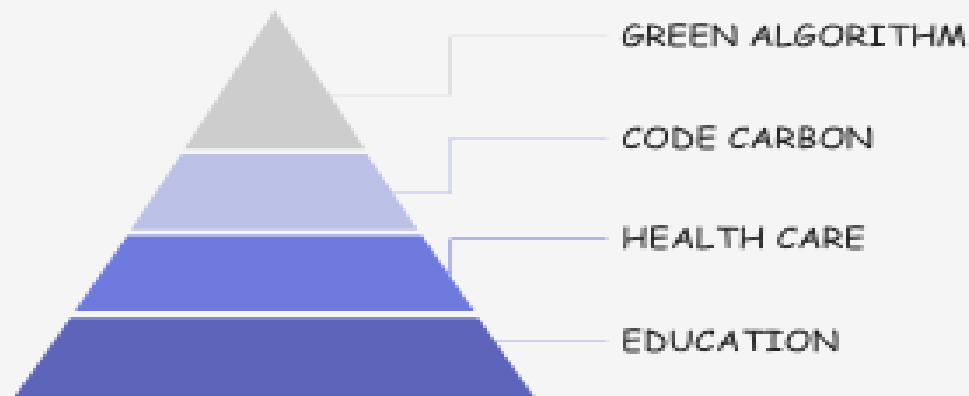
04 ELEPHANT IN THE ROOM



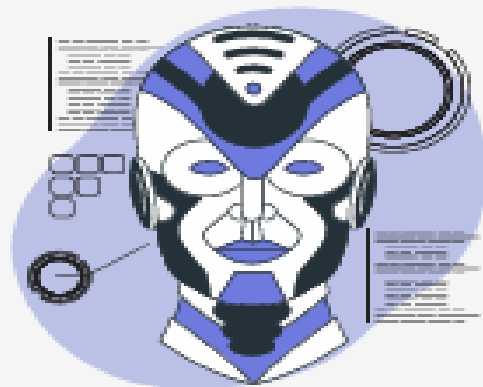
- AI is powered by massive amounts of energy, and much of the energy is from the burning of fossil fuels, which is the biggest contributor of global warming.
- Large language models don't come cheap.
- AI is still highly dependent on old data and hence cannot make accurate predictions.



05 FUTURE DIRECTIONS

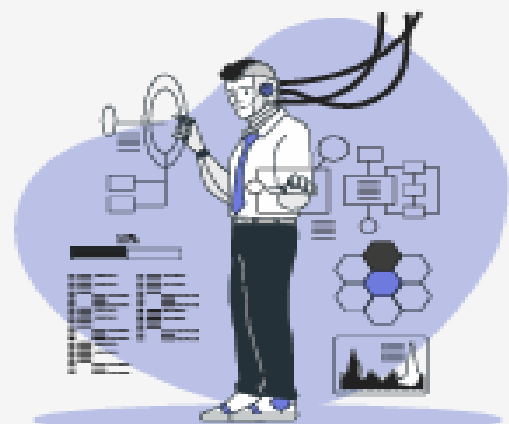


06 CONCLUSIONS



- ❖ AI can transform environmental sustainability.
- ❖ Achieving sustainable AI requires balancing innovation with ecological responsibility, ensuring AI development aligns with global sustainability goals.
- ❖ AI is no longer an option but a necessity to ensure that AI technologies align with environmental preservation.

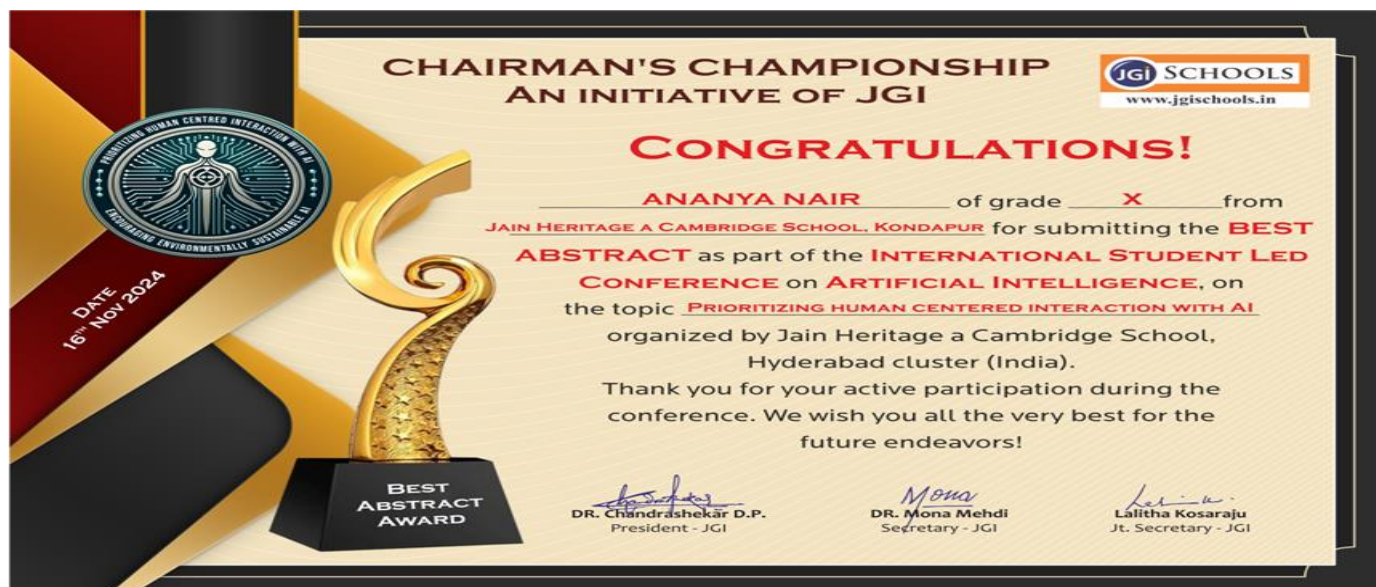
THANK
YOU





RESULTS

Best Abstract: Ananya Nair, Rohitha K, Durva Trivedi (Team V)



Best Research Article:

Insha Fathima Mankarathody, Laraib Hafiz, Kamaleshwer Purushothaman (Team I)



Best Research Article: Saira Thomas, Saket Raje, Isha Saxena (Team II)



Best Presentation:

Insha Fathima Mankarathody, Laraib Hafiz, Kamaleshwer Purushothaman (Team I)



CHAIRMAN'S CHAMPIONSHIP
AN INITIATIVE OF JGI

CONGRATULATIONS!

INSHA FATHIMA MANKARATHODY of grade **IX**
from **DPS MODERN INDIAN SCHOOL, QATAR** for the **BEST PRESENTATION** during the **INTERNATIONAL STUDENT LED CONFERENCE** on **ARTIFICIAL INTELLIGENCE**, on the topic **ENCOURAGING ENVIRONMENTALLY SUSTAINABLE AI** organized by Jain Heritage a Cambridge School, Hyderabad cluster (India).
Thank you for your active participation during the conference. We wish you all the very best for the future endeavors!


DR. Chandrashekhar D.P.
President - JGI


DR. Mona Mehdi
Secretary - JGI


Lalitha Kosaraju
Jt. Secretary - JGI



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16th Nov 2024


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Secretary - JGI


Lalitha Kosaraju
Jt. Secretary - JGI



DATE
16th Nov 2024


BEST
PRESENTATION
AWARD

Runners up Team: Ananya Nair, Rohitha K, Durva Trivedi (Team V)



DATE
16th Nov 2024



RUNNERS UP
BEST TEAM
AWARD

CHAIRMAN'S CHAMPIONSHIP
AN INITIATIVE OF JGI

CONGRATULATIONS!

ANANYA NAIR of grade X
from JAIN HERITAGE A CAMBRIDGE SCHOOL, KONDAPUR
has been adjudged as the **RUNNERS UP-BEST TEAM**
during the **INTERNATIONAL STUDENT**
LED CONFERENCE on **ARTIFICIAL INTELLIGENCE**
organized by Jain Heritage a Cambridge School,
Hyderabad cluster (India).
Thank you for your active participation during the
conference. We wish you all the very best for the
future endeavors!


DR. Chandrashekhar D.P.
President - JGI


DR. Mona Mehdi
Secretary - JGI


Lalitha Kosaraju
Jt. Secretary - JGI



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16th Nov 2024



RUNNERS UP
BEST TEAM
AWARD

CHAIRMAN'S CHAMPIONSHIP
AN INITIATIVE OF JGI

CONGRATULATIONS!

ROHITHA K of grade IX
from JAIN HERITAGE A CAMBRIDGE SCHOOL, KONDAPUR
has been adjudged as the **RUNNERS UP-BEST TEAM**
during the **INTERNATIONAL STUDENT**
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RUNNERS UP
BEST TEAM
AWARD

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CONGRATULATIONS!

DURVA TRIVEDI of grade IX
from JAIN HERITAGE A CAMBRIDGE SCHOOL, KONDAPUR
has been adjudged as the **RUNNERS UP-BEST TEAM**
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Best Team:

Insha Fathima Mankarathody, Laraib Hafiz, Kamaleshwer Purushothaman (Team I)



Best Team: Saira Thomas, Saket Rajee, Isha Saxena (Team II)



DATE
16th Nov 2024



BEST
TEAM
AWARD

CHAIRMAN'S CHAMPIONSHIP
AN INITIATIVE OF JGI

CONGRATULATIONS!

SAIRA THOMAS of grade XI - D
from GEMS MODERN ACADEMY - DUBAI, UAE has
been adjudged as the **BEST TEAM** during the
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BEST
TEAM
AWARD

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CONGRATULATIONS!

SAKET RAJE of grade DP 1 - A
from GEMS MODERN ACADEMY - DUBAI, UAE has
been adjudged as the **BEST TEAM** during the
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BEST
TEAM
AWARD

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AN INITIATIVE OF JGI

CONGRATULATIONS!

ISHA SAXENA of grade XI - D
from GEMS MODERN ACADEMY - DUBAI, UAE has
been adjudged as the **BEST TEAM** during the
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Best Speaker: Everlyn Lai Kai Lynn (Team III), Riya Naphade (Team IV)



DATE
16th Nov 2024

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CONGRATULATIONS!

EVERLYN LAI KAI LYNN of grade X
from TZU CHI INTERNATIONAL SCHOOL KUALA LUMPUR
has been adjudged as the **BEST SPEAKER** during
the **INTERNATIONAL STUDENT LED CONFERENCE**
on **ARTIFICIAL INTELLIGENCE** organized by
Jain Heritage a Cambridge School, Hyderabad cluster (India).
Thank you for your active participation during the
conference. We wish you all the very best for the
future endeavors!


**BEST
SPEAKER
AWARD**


DR. Chandrashekar D.P.
President - JGI


DR. Mona Mehdi
Secretary - JGI


Lalitha Kosaraju
Jt. Secretary - JGI



DATE
16th Nov 2024

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CONGRATULATIONS!

RIYA NAPHADE of grade XI
from THE JAIN INTERNATIONAL SCHOOL, CHH. SAMBHAJINAGAR
has been adjudged as the **BEST SPEAKER** during
the **INTERNATIONAL STUDENT LED CONFERENCE**
on **ARTIFICIAL INTELLIGENCE** organized by
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Thank you for your active participation during the
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**BEST
SPEAKER
AWARD**


DR. Chandrashekar D.P.
President - JGI


DR. Mona Mehdi
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Lalitha Kosaraju
Jt. Secretary - JGI



TESTIMONIALS



**Nonika Sambyal,
DPS-MIS Doha, Qatar**

The virtual conference was well-organized and highly informative, providing a smooth and engaging experience. Alongside three students, we gained valuable knowledge about the Sustainable Development Goals (SDGs) and how technology can support them. We explored ways to encourage environmentally friendly AI, focusing on balancing progress with protecting the planet. The discussions were practical and inspiring, leaving us motivated to act responsibly.



**Sivagama Soundari,
DPS-MIS Doha, Qatar**

The virtual conference was impeccably organized, showcasing seamless coordination and engaging content delivery. Our participation proved immensely fruitful, offering profound insights into the Sustainable Development Goals (SDGs). Our students delved into strategies for fostering environmentally sustainable AI, learning to balance technological innovation with ecological preservation. The sessions were intellectually stimulating, emphasizing the ethical imperative of integrating sustainability into AI advancements. We are looking forward to attend more such enlightening conferences in the future.



Dr. Rajani Roshan John

GEMS Modern Academy, Dubai, UAE

Congratulations on the completion of a successful event, at an international level, bringing together young inquisitive minds with a research bend of mind. It was thoroughly impressive how your team provided clear instructions and timely support, and the debriefing sessions were so important and well planned out. A big shout out to Ms. Shameem for patiently working with the students on coordinating their PPTs and timings. Also, the transparency you maintained throughout was highly commendable. All the very best for future research conferences. We will be looking forward to participating with you again in the future rounds of the Student Led Conference.



Lavindran Vigneshwaran

Teacher-in-charge

Tzu Chi International School Kuala Lumpur.

Thank you very much for organising this wonderful conference for the students. It has definitely been a learning curve for all students, especially students from my school. This event has extended their knowledge on AI and other areas. Kudos to the organising team for a job well done and hope to be part of this conference in the coming years.



Ms Jamila Qureshi
Coordinator

The Jain International School, Chh. Sambhaji Nagar, Aurangabad, India.

I am Jamila Qureshi coordinator of chairman championship season 4 from The Jain International school, Chh Sambhajinagar, Aurangabad. My Heartful thanks to Academic Council for organizing such a wonderful conference. Thank you so much Mona ma'am for your continuous guidance and support for this valuable learning experience from submitting the article till final presentation. We would like to be the part of many more such conferences.



Ms Shuchita Malhotra

Vice Principal

Jain Heritage a Cambridge School, Kondapur, India.

“Learning is the cornerstone of growth; it empowers us to shape our future with knowledge and confidence”

The International Student Led Conference on Artificial Intelligence showcased a wide range of perspectives, highlighting the participants’ dedication and knowledge. The presentation varied in depth and scope covering fundamental AI concepts, deep research. The most impactful presentations were those that balanced technical detail with accessibility, enabling both novice and experienced viewers to engage with the content. Similar to last year we had a very good participation from 7 schools which joined the conference from India, Qatar, Dubai and Kuala Lumpur. All the teams participated with full enthusiasm and tried giving their best. The event was judged by seasoned jury members who examined every detail and reported the findings. The trio of Team Kondapur comprising Ananya Nair, Rohitha K & Durva Trivedi made us proud by grabbing two prizes - Best Abstract and Runner Up team. Hearty congratulations to the Academic Council for this fantastic well organized event.



Ms Archana Tiwari
Vice Principal
Jain Heritage a Cambridge School, Nagpur, India.

My journey at JHCS Nagpur has been spectacular and overwhelming. Our students who participated in Chairman's Championship event was the biggest opportunity for them to present their Research work on an International Platform. It was a surprise to see the interest of students in writing the abstract, their research article and power point presentation. It was a wonderful journey of almost 2 months where I learnt so many new things from my students. Our topic was on Encouraging Environmentally Sustainable AI. The presentation highlighted the dual role AI plays in Sustainability – both as a potential contributor to environment challenges, such as high energy consumption, and as a powerful tool for solving environmental issues, by optimizing energy usage and resources management. We are grateful to the Academic Council for giving us this opportunity of learning.



Thirupathi Reddy M
Co-ordinator,
Jain Heritage a Cambridge School, Shamirpet, India.

I am very happy to be the part this 10th Chairman Championship

It was a well organised conference and the participants demonstrated exceptional knowledge and innovative thinking in AI. With some refinement, the students presentation was even more compelling.

Some concepts might have been too advanced for non-experts. The time allocated was enough to efficiently cover key points.

This kind of initiatives helps to collaborate and explore on the subject, and enhances the competitive spirit.



INTERNATIONAL **STUDENT LED CONFERENCE (SEASON -4)** **ON AI**

AS PART OF
10TH CHAIRMAN'S CHAMPIONSHIP
(AN INITIATIVE OF JGI)

Date : 16th November 2024
Saturday

Time : 10:30am to 1:00pm



Presided By

Dr. Chandrashekar DP

CEO - JGI PRESIDENT - ACADEMIC COUNCIL

Dr. Mona Mehdi

SECRETARY - ACADEMIC COUNCIL

Mrs. Lalitha Kosaraju

JT - SECRETARY - ACADEMIC COUNCIL

Distinguished Guests (Jury)

Ms Sunalini Benjamin
Bangalore

Mr Swaminathan Ganeshan
Chennai

Dr.Ritu Chauhan
Bangalore



Programme Schedule



10TH CHAIRMAN'S CHAMPIONSHIP - 16/11/2024

- | | |
|--|------------------------|
| 1. Lighting of the Lamp | - 10:30 am |
| 2. School Song | - 10:33 am |
| 3. Welcome Address by Secretary Academic Council - Dr. Mona Mehdi | - 10:33 am to 10:45 am |
| 4. Oral Presentation by Team 1: DPS Modern Indian School, Qatar | - 10:45 am to 10:52 am |
| 5. Oral Presentation by Team 4: The Jain International School, Chh. Sambhajinagar (Aurangabad) | - 10:52 am to 10:59 am |
| 6. Address by Jury Member - Ms. Sunalini Benjamin – Bangalore | - 10:59 am to 11:04 am |
| 7. Oral Presentation by Team 2: Gems Modern Academy, Dubai, United Arab Emirates | - 11:04 am to 11:11 am |
| 8. Oral Presentation by Team 5: Jain Heritage A Cambridge School, Kondapur | - 11:11 am to 11:18 am |
| 9. Address by Jury Member - Mr. Swaminathan Ganeshan – Chennai | - 11:18 am to 11:23 am |
| 10. Oral Presentation by Team 3: Tzu Chi International School, Kuala Lumpur | - 11:23 am to 11:30 am |
| 11. Oral Presentation by Team 6: Jain Heritage A Cambridge School, Nagpur | - 11:30 am to 11:37 am |
| 12. Address by Jury Member - Dr. Ritu Chauhan – Bangalore | - 11:37 am to 11:42 am |
| 13. Oral Presentation by Team 7: Jain Heritage A Cambridge School, Shamirpet | - 11:42 am to 11:49 am |
| 14. Address by President Academic Council - Dr. Chandrashekar DP | - 11:49 am to 12:00 pm |
| 15. Release of SMART DIAMONDS Vol. V | - 12:00 pm to 12:05 pm |
| 16. Result Declaration for the International Student Led Conference | - 12:05 pm to 12:15 pm |
| i) Best Abstract | |
| ii) Best Research Article | |
| iii) Best Presentation | |
| iv) Best Speaker | |
| v) Best Team | |
| vi) Runners Up Team | |
| Subject Expert for the Team 1 | |
| 17. Vote of Thanks by Ms. Lalitha Kosaraju - Jt. Secretary Academic Council | - 12:15 pm to 12:20 pm |
| 18. National Anthem | - 12:20 pm |



OFFICE ADDRESS:

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Hyderabad – 500 084, Telangana. Contact: 9393676701/ 040-44755252

Designed by:
Ms Shameem