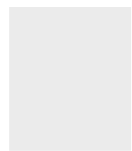


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ISSUE DESCRIPTION



COMMITTEE International Telecommunication Union

ISSUE Addressing the Impact of Artificial Intelligence Services on Human Development

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Introduction

Artificial Intelligence development has been around since the 1900s. Software engineers have been working for decades to create early AIs, such as DeepBlue in 1996, which could process information faster than the human brain. In the beginning of the century, interest in AI was renewed, as more and more models were released and worked on. In 2011, IBM created the smartest AI at its time, Watson, which gained its knowledge by learning encyclopedias. In the same year, Siri was released by Apple, but AI at this time could only answer questions on their respective fields, not any question in any field, like today's ChatGPT.

AI is now increasingly ubiquitous in, not only business and industry, but our daily lives. It's affecting the way we discover, learn, live, communicate, and work. It has tremendous potential for the economy and society. The intelligence of machines and robotics with deep learning capabilities is already solving cognitive problems commonly associated with human intelligence.

While people in advanced countries may fear job loss due to AI, in low-income countries others may see AI as offering new opportunities to break the cycle of poverty. The academic community will have an important role to play in preparing future generations of business leaders and national and international policymakers. AI and its positive and negative impacts must be taught now, so that students are aware of the world as it is currently, and the world as it unfolds rapidly.

Definition of Key Terms

Artificial Intelligence (AI) - Artificial Intelligence is regarded as a program that aims to replicate the human intellect. They do this by taking in huge amounts of data, processing it, and learning from their past in order to improve, without human input.

Hardware - The physical, tangible, parts of computer systems, like the keyboard or more technical elements like the processor and GPUs.

Software - The instructions that control what a computer does.

Shadow AI - The use of AI applications and tools without explicit approval or oversight of an organization's IT department.

ChatGPT - A software that allows a user to ask questions using conversational, or natural, language. It was released on November 30, 2022, by the American company, OpenAI.

DeepLearning - Deep learning is a subset of machine learning that focuses on utilizing neural networks, a way of learning similar to how human brain cells work, to perform. The field takes inspiration from biological neuroscience and is centered around stacking artificial neurons into layers and "training" them to process data.

Large Language Model (LLM) - A name for DeepLearning algorithms, which are fed billions of miscellaneous data in order to have vast amounts of usable knowledge.

GPT-4 - The Generative Pre-trained Transformer 4 was created by OpenAI. It was made publicly available in 2023 via the paid version of the ChatGPT app, it is the latest and best large language model released, the fourth addition to the GPT family of AIs. Pre-trained refers to the method, which first trains an LLM on huge amounts of general text data and then fine-tuning it for specific tasks with smaller datasets.

AGI - Artificial General Intelligence is a highly autonomous system that outperforms humans at most economically valuable work, according to OpenAI.

Public-Private Partnership - PPPs are collaborations that involve non-governmental (private) and governmental (public) companies.

General Overview

According to the United Nations Development Programme, human development is "creating an environment where people can develop their full potential and lead productive, creative lives in accordance with their needs and interests." Human development has changed with the introduction of fire, toolmaking and the industrial revolution alike. Our lives' development was

always catalysed by ideas of hard-working individuals, until the industrial revolution, which brought forth the introduction of factories and modern capitalism. Today, in the 21st century, world-changing ideas are often realized by companies which operate with hundreds of staff.

In the case of Artificial Intelligence, its realisation cannot be denoted to a single entity. Throughout the 20th and 21st century, AI's development is scattered and is only recently gaining traction. The idea of a system that replicates people was introduced by Karel Čapek, who released a play "Rossum's Universal Robots" in 1921. The concept and naming of AI happened in 1956, at the Dartmouth Conference. The project's four organizers, all of them important computer scientists or mathematicians, are considered some of the founding fathers of AI. During the eight-week-long conference, many other mathematicians, engineers and cognitive scientists were invited, many of them did not stay at the workshop for its full duration. The same year, Logic Theorist was released, which proved the first 38 theorems of the book Principia Mathematica by Alfred North. This was the first computer programme which had an impact on human development, as it helped prove and find new proofs for mathematical theorems.

The development of computer systems got to a point in 1997, where the Deep Blue, then regarded as a supercomputer developed by the American company IBM, beat the world chess champion in real time. Another victory for AI was Google DeepMind's AlphaGo in 2016. It made global headlines for defeating the world champion in Go, the more complex Chinese strategy game similar to chess. Their work has also been applied in healthcare, such as predicting protein structures by AlphaFold and optimizing electricity usage in huge data centers.

The first complex AI system was ELMo (Embeddings from Language Models), developed by researchers at the Allen Institute for AI in 2018. It was the first large language model that gained widespread recognition. ELMo was a breakthrough because it utilized a Deep Bidirectional Language Model, which is a precursor to the Generative Pre-trained Transformer model used by ChatGPT.

ChatGPT, released in the same year as ELMo, is widely regarded as the first Large Language Model that laid the foundation for the subsequent advancements in transformer-based LLMs, such as GPT-2, GPT-3, and beyond. These transformer-based models have since revolutionized the field of natural language processing and artificial intelligence, leading to the widespread use of LLMs in a variety of applications. There were no AIs before the GPTs that could excel at all natural language tasks, thanks to the new Pre-Trained method that OpenAI used. The publicly

available ChatGPT app has arguably been the most influential AI on human development. Since then, a number of AI apps have been released, imitating the power of ChatGPT. Google's Gemini has been built into the Google app, making it highly accessible. Due to modern AIs' all-knowing nature, there is no field in which it could not be implemented to some degree.

At schools, AI apps are used by teachers to create personalised worksheets and lesson plans, which undoubtedly saves time and lets them focus on other areas where their attention is needed, but the lack of trustworthiness may negatively affect the quality of the lessons and their work. AI is often used by students too. It can substitute a professional's help at any time and is a good tutor. With AI tools, students also receive instant feedback on their assignments and worksheets. It is commonly used by students in order to brainstorm ideas. A negative aspect of AI used by students is that AI is a cheating tool. Students can make them do their essays and homework assignments for them. Luckily, combating this has not gone unnoticed, and AI text detection tools are a reality. In conclusion, students' and teachers' lives are already changing. AI lets them access any knowledge they like, which in developing countries is an advantage that can be used by simply having internet access.

Knowledge provided by AI can be exploited by doctors and nurses, especially those new to the field or lack proper training. AI has proven to understand and be able to compare medical records, along with successfully diagnosing patients accurately in fields such as radiology and pathology, according to IBM. Artificial Intelligence can also create personalised treatment plans, which differ from each patient. AI applications can offer mental therapy and offer check-ins for mental health conditions. In the field of medical robotics, AI-driven robotic systems can assist surgeons in performing complex procedures with improved accuracy and control.

Artificial Intelligence's massive computing capacities and customizability streamlines most workplaces. Creative work, like voice acting, film writing and producing are at a grave danger of being replaced. This danger of joblessness has also been recognized. In 2023, the Writers Guild of America initiated a 148-day strike, with the goal of establishing protections against the use of Artificial Intelligence in creative scriptwriting. The writers feared that AI could be used to generate scripts or rewrite existing material, potentially undermining their contributions and workplace conditions. The strike was successful and concluded with conditions that favor the actors of Hollywood.

The development of Artificial Intelligence is outperforming its regulation creation, which is a huge issue regarding unethical, shadow AI development. These rogue AI models are likely to give out information that will cause harm. Regulations, like the General Data Protection Regulation (GDPR) of the European Union, are a great step into the right direction. Under the GDPR, AI systems that process personal data must have a lawful basis for doing so, such as explicit consent from individuals. The GDPR requires organisations to lawfully collect information in order to use it and it dictates transparency within the decision making of a software's inner workings. Standards like the National Institute of Standards and Technology (NIST) Cybersecurity Framework provide guidelines for managing and reducing cybersecurity risks, also affecting Artificial Intelligence. The use of unregulated AI applications can introduce violations that fall into an ungoverned space. These frameworks aim to reduce these risks, however prioritising AI development over safety, like the White House's 2019 executive order, can hinder the lawmaking process.

AI reduces workload for professionals, eliminates human error and offers a cheap and always-ready employee. In conclusion, AI is altering and will continue to change the way we think and value our relationships with each other. Today, it reduces trust between students and teachers, creates lazier students, yet at the same time lets us build our education and helps us with important decisions by providing clear perspectives. It saves lives by cancer screenings, provides assistance to everyone, which increases our efficiency. Its pattern recognition ability can help from revising documents to screening through security footage. People are hired and fired because of it and tensions may grow in the future. It makes us rethink our careers and shrinks our working opportunities and opens new ones. It is impeccable to discuss and prepare for the consequences of Artificial Intelligence, and how far one should allow the continuation of its development, considering the ethical and moral, socio-economic, health, security, and political aspects of it, among many more.

Major Parties Involved

OpenAI: OpenAI is an American artificial intelligence research organization responsible for the release of ChatGPT, the most advanced AI model available to the public so far. Its stated mission is to develop "safe and beneficial" AGI.

The United States of America: The U.S. plays a crucial role in AI development and policy making. It is regarded as the leading researcher in Artificial Intelligence. It houses key

research institutions and funds global AI development, while it regards regulating secondary.

People's Republic of China: The PRC has a state-led approach, blending national strategies, vast investments, and integration of AI into its economic and national, political plans. China aims to become the global AI leader by 2030, focusing on applications in smart cities, healthcare, and AI systems.

European Union: The EU as a whole has a wide political presence regarding AI. It is aiming to create the world's first comprehensive AI regulatory framework. Though their focus is on ethics, they also fund AI development within their own countries.

NVIDIA: An American company that creates pivotal software, but mostly hardware and has seen a major increase of stock prices in recent years. The company's GPUs are a key factor of AI development.

Hikvision: It is the largest Chinese surveillance company that utilizes AI and machine learning in its products. It has developed AcuSense, which is a software that detects entities on given footage and provides real-time alerts. They innovate security with AI like no other firm.

Timeline Of Events

1921 - Karel Čapek releases a play "Rossum's Universal Robots" which introduces the idea of "artificial people" which he named robots.

1950 - Alan Turing publishes "Computer Machinery and Intelligence" which proposes a test of machine intelligence called The Imitation Game.

1956 - Dartmouth Conference, regarded as the birthplace of AI, Logic Theorist is released.

1979 - Association for the Advancement of Artificial Intelligence (AAAI) is founded.

1980 - First national AAAI conference

1997 - Deep Blue, developed by IBM, beats the world chess champion.

2003-2005 - World Summit on the Information Society (WSIS) conferences

2006 - X, Facebook, and Netflix start utilizing AI as a part of their advertising and user experience algorithms.

2010 - Microsoft launches the Xbox 360 Kinect, the first gaming hardware designed to track body movement and translate it into video game input.

2011 - Apple releases Siri.

2015 - Elon Musk, Stephen Hawking, and Steve Wozniak along with over 3,000 others sign an open letter to the worlds' governments about banning the development and use of AI weapons.

2016 - The release of Google DeepMind's AlphaGo

2018 - The EU's General Data Protection Regulation comes into action.

2019 - The American AI Initiative executive order prioritises AI development, workforce education and international collaboration.

2020 - OpenAI starts beta testing GPT-3.

2021 - UNESCO adopts an optimal AI framework.

2022 - AI and Human Rights Conference

2023 - AAI conferences

2023 - ChatGPT app is released to the public

2023 - AI and You's Public Awareness Campaign

2024 - WSIS events

2025 (planned) - Hybrid Human-Artificial Intelligence (HHAI) conference

Previous Attempts at Solving the Issue

The impact of AI on human development is a topic that has been discussed throughout history. It used to be regarded as speculation, however, we now live in a time when Artificial Intelligence has an effect on human development. Only recently have we been experiencing the effect of AI in our daily lives, long-term effects are still to be seen.

AAAI, WSIS AND HHAI

One of the first platforms for discussion of AI was the American Association of Artificial Intelligence (AAAI) in 1980. The first conference highlighted the impact of AI tech and its ethical and societal implications. Since then, there have been dozens of AAAI conferences held in the USA and some in Canada. These conferences provide a platform for networking and the presentation of cutting-edge technologies. The AAAI also holds workshops and competitions which evaluate and develop AI systems.

The World Summit on the Information Society (WSIS), held between 2003 and 2005, further emphasized the importance of AI on human development. These conferences aimed at making technological progress well-known among common people. AI was a key topic, particularly addressing its role as an information source, especially for developing communities. WSIS collaborates with initiatives like UNESCO's AI ethics efforts and ITU's AI for Good Summit. WSIS launched the AI for Good Initiative, within the ITU, to safeguard future AI development. The initiative explores how AI can address global challenges and ensure ethical AI use. AI-driven projects are frequently recognized under the WSIS Prizes, celebrating innovations that leverage AI for sustainable development.

HHAI's EU funded conferences have been held from 2022 and will be in 2025. Hybrid Human-Artificial Intelligence is an international conference series dedicated to exploring AI systems that work collaboratively, proactively, and purposefully alongside humans, enhancing rather than replacing human intelligence. The goal of HHAI is to develop AI systems that complement human abilities, highlighting the importance of adaptive, collaborative, responsible, interactive, and human-centered intelligence. These systems leverage human strengths and compensate for weaknesses, while also considering social, ethical, and legal implications. Overall, HHAI brings many scientific fields together and aims to create a community of young thinkers.

CURRENT ACTIONS

Governments worldwide have developed national AI strategies that include frameworks for ethical AI development, prioritizing human rights and societal benefits. Regulatory frameworks

are being established to ensure responsible development of AI technologies, addressing issues like bias, privacy, and accountability. The UK's National Health Service collaborated with the company Microsoft to use AI for improving diagnostics and streamlining healthcare delivery. Another example of public-private partnerships is the Defense Advanced Research Projects Agency's partnership with AI developers in academia and industry to advance AI for defence and security applications.

Informing the public has become more widespread. Governments and organizations have conducted public consultations to gather input from diverse stakeholders, including citizens, businesses, and non-profit organizations on AI policies and their societal impacts. Awareness campaigns, like the USA's AI and You, have been launched to educate the public about AI's potential benefits and risks, generating informed discussions and awareness.

International cooperation has also been essential. The United Nations and the OECD have initiated global dialogues on AI, emphasizing international collaboration to address challenges and share best practices. Agreements and frameworks have been established to facilitate collaboration between countries on AI research and development, ensuring that advancements benefit humanity as a whole.

The ongoing dialogue surrounding AI and human development reflects a growing recognition of the need to align technological advancements with human values and societal needs. These discussions, including those from the first conferences at the AAI and the WSIS, are crucial for ensuring that AI serves as a tool for human development rather than as a weapon of mass destruction.

Possible Solutions and Approaches

RESEARCH AND REGULATION

The research and development of Artificial Intelligence must be approached with transparency and open dialogue between private companies, governments, and the public. Keeping advancements in AI secret from governmental oversight can lead to causing harm and undermining trust. By engaging platforms where discussions about AI development can take place, stakeholders can collaboratively address ethical, legal, and technical challenges. These platforms should serve as neutral spaces for exchanging ideas and ensuring that advancements are announced and shared in a way that promotes cooperation rather than competition.

BENEFITS OF PUBLIC-PRIVATE PARTNERSHIPS

A cooperative framework between companies and governments is vital for regulating AI and ensuring it is used as a beneficial tool. Governments can provide oversight, ethical guidelines, and long-term societal perspectives, while companies bring technological expertise and innovation. By working together, they can establish standards for responsible AI development and usage. This approach would reduce the risk of misuse, enhance public trust, and ensure AI aligns with human-centric values and sustainable development goals. Leaving the development of AI to corporations that prioritise profit over value, might not be the best idea.

AI AWARENESS

Public awareness is another critical element in shaping the future of AI. Many people remain unaware of how AI impacts their daily lives and the broader societal implications of this technology. To address this, free-to-attend educational conferences should be advertised and made accessible. These events can clear up what AI is, address concerns, and provide the public with the knowledge to create intelligent discussions about its development, regulation and use.

CONCLUSION

Transparency, collaboration, and education are the cornerstones of responsible AI governance. By ensuring open communication, cooperative innovation, and an informed public, we can guide AI's development to serve humanity's best interests and foster a future built on shared progress rather than isolated competition.

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