

# ARTIFICIAL INTELLIGENCE: A NEW ERA OF EDUCATION

## Abstract

This research paper seeks to provide an overview of research on AI based Education with suggestions which includes introduction of AI it's history and how it works. Using AI tools in educational fields also included in it to make aware to people about those useful tools which makes learning easy and interesting. AI can be used for good purpose and can also affect badly the users both sides are here black and white, we have explored the field of AI education research in terms of authorship and publication pattern. According to international reports AI in education is one of the currently emerging technologies in education field. AI is giving explored and practical approach in application of AI in education field at the place of theoretical perspectives. At last of this research paper some suggestions are also included how to use AI in meaningful and ethical way with conclusion and statement of some popular personality about AI.

**Keywords:** AI, Chat Gpt, Prompt, Intelligence, Simulation, Turing Test, Personalized learning, Automated Machine, ITS, NLP, IBM, Chatbots

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## I. INTRODUCTION

AI a new technological term can't say new but nowadays is in trending using AI humans are increasing their productivity and also contributing in economic development. Including various fields such as education, finance, business call matt technology. In educational field using of AI tools is playing a very crucial role but also there are some concerns which will affect the education of the learners. In this paper we are going to understand significance and some concerns about AI using for students and educators. AI performing difficult and time taking tasks in less time and decrease burden of academic works helping to improve teaching methods making education digital and it also has some challenges our purpose to write about AI to make aware all of you about this technology and works.

## II. WHAT IS AI?

AI stands for Artificial intelligence; AI is the ability of a system (computer program, machine) to learn and elucidate external data in a flexible manner. *AI is a simulation of human intelligence*, process by computer system and machines which perform tasks easily that normally need human intelligence. e.g. Speech recognition, visual perception, translation between language, decision making etc.

## III. HISTORY OF AI

1. **AI – Simulation of Human Intelligence into machines:** AI is the branch of computer science that established in year 1950. The popular mathematician ' **Alan Turing** 'discussed about AI his research paper in 1950.

- Alan Turing determine “**Turing Test**” which determines the machine’s intelligence.
- **John Mc Carthy** coined the term ‘**Artificial Intelligence**’ in “**The Dart Mouth Conference**” after 6 years of Turing Test in 1956.
- **In 1955:** - ' **Logic Theorist** ' the First AI software was developed by – *Allen Newell, Herbert Simon and J.C.Shaw.*
- **In 1966:** -First Chatbot:**ELIZA**
- **(1974-1980):** -AI “WINTER -1” abrupt halt of AI development
- **1976** – “Mark 1 perception” was built by **Frank Rosen blatt**. This computer was made based on neural network technology and learns through trial and error.
- **(1987-93)- SECOND AI WINTER**
- **1997:** -IBM deep Blue First Computer to Beat World Chess Championship.
- **2002:** -AI in Home: **ROOMBA**(a vacuum cleaner)
- **2011** – **IBM's Watson:** wins a quiz show.
- **2012** – Google launched an Android app feature” Google **now**” Which was able to provide information?
- **2014** – Chatbot– “**Eugene Ghost man**” one competition in Turing test.
- **2015** – Amazon echo (**ALEXA**) and more others like Apple **SIRI**, Autonomous vehicles
- **2023** – AI chatbots, ChatGpt, NLP (Natural Language Processing),Claude, **TRINKA**, Research Rabbit,Copilot and more.

#### IV. TYPES OF AI

1. **Weak AI** This is a artificial narrow intelligence used to perform certain specific task common in our daily life can perform only in limit. Ex.- Alexa, IBM Watson, Apple SIRI, Autonomous vehicles.
2. **Strong AI** can understand and learn any intellectual task like as human being called Artificial General Intelligence (AGI). On the other hand, Artificial Super Intelligence (ASI) can perform task better than humans it is still concept but further future can be reality. Ex.- The Superhuman movie, IRON Man ,2001 a space odyssey (description of ASI can be find to see).

#### V. APPLICATION OF AI IN VARIOUS FIELD

AI tools used in various fields and areas such as algorithm bias, Finance, National security transportation, Pramod digital education economic development, autonomous vehicles-cars, trucks, buses, Drone delivery., Light detection and ranging system. Smart cities, improve service delivery, promote cyber security.

#### VI. IMPACT OF AI IN EDUCATION FIELD

As we are seeing that AI is contributing to transform various sectors and Fields companies, industries, finance including education. Digital Education is now promoting globally for sake of learners, Institutions and Educators. AI applications are playing vital role in many Fields including education. In 21<sup>st</sup> century the technological advancements on its peak that brought the transformation in many aspects of our lives.

AI brought revolution in modern education period it opens the door for the learners to learn by offering personalized learning experiences and also improved quality of content, I help in decision making provide various AI tools to make learning easy. AI is molding the future learning.

1. **Personalized Learning:** AI makes for better personalized learning. AI is contributing to modern education and powered adaptive learning platforms which help the students by gather data or information on individual learners learning style, weakness and strengths and progress. Using this data AI algorithm can provide educational content, assessment, exercise, to meet student's need or demand. It increases student engagement and interest as well as facilitates deep understanding of topics and improve their academic performance.
2. **Decision making by driven data:** AI Data analytics capability boost the education institutions to make data driven decisions which enhances the overall learning experience with AI and can find out or analyze patterns and trends in the students' performance in this way it helps educators to spot potential area for improvement in teaching methods and curriculum.
3. **ITS (Intelligent Tutoring System):** Its works as virtual tutors which provide personalized support and guidance to the students outside of the regular classroom hours.

ITS is very crucial and valuable for modern classrooms. It can answer questions, give explanation and offer additional practices which act as supplement resources that motivate and provide reinforcement to learners. By providing real time feedback and assist students to overcome difficulties and boost their confidence in managing concepts, understanding.

4. **Automated administrative Task:** -In educational institute, School administration have to manage students record, schedule, class time organized resources for managing all this Sometime educational institute phase challenges. AI streamlines all these tasks do by automatic administrative which save time and reduce pressure and burden on the staff that they can focus more on teaching and developing new teaching strategies and analyze to improve teaching methods for the sake of students or learners.
5. **NLP (National Language Processor):**All language model can serve as practice students for new teachers and NLP.AI tool enhanced language understanding pronunciation vocabulary speech recognition provide dynamic learning environment.

## **VII. AI ON INTERACTION BETWEEN LEARNER AND INSTRUCTOR IN ONLINE LEARNING**

AI provides effective support for online learning and teaching while including Decision making, personalized experience, automating instructor, feedback, student instructors use AI to identifying challenges, gaps or barriers, but also risking the safety of these interaction takes place online variety of AI system which affect students learning. **Jill Watson** an AI teaching assistant developed by **Girl and Ploepeddi (2016)**to augment instructor communication with learners by responding autonomously to learners. Online learning environment, communication states question and answer between the learners and instructors about content and topics such as assignment, instructional material, discussion, feedback with positive quality and quantity but also risk causing miscommunication and responsibility issues.

To prepare students for a digital future is IBM's teacher Advisor Program are using Watson's free online tools.

To help teachers in bringing the latest information and latest information and knowledge into the classroom. This create new educational environment which enables instructors to develop new lesson plans and get relevant instructional videos which help students to get the most out of classroom.

Gamification and simulation are being used mostly in education. Using chatbots and virtual assistants is also growing by leaps and bounds in educational field.

## **VIII. CHAT GPT: STANDS FOR (CHAT GENERATIVE PRE-TRAINED TRANSFORMER)**

Chat Gpt by an Open AI an American Company was launched in November 2022 publicly. It is a LLM (Large Language Model) GPT. This is used in various fields in creating animations, generating text, photo generator, decision making, photodecor, etc.

- **Companies like Amazon Focus:** Chat Gpt launched boom in AI written e-books on Amazon to write all e-books. It has a big one limitation of fact checking. Chat GPT provide personalized assistance for students who assist students by answering their questions and clear concept and also provide additional explanation of topics.
- **According to New York Time Article** “Highlights instances of cheating with chat GPT in college courses and instructors re designing curriculum to prevent academic cheating and unethical steps some schools blocked the technology.

Earlier this year New York city department of education banned the use of chat GPT based on concerns that it will hinder the students learning. – (*Huang k.,New York Times January 16,2023*)

On the other hand, LA times op -ed published in early 2023 that psychologist Angela Duckworth PhD argued against banning the chatbot they are taking it as an opportunity. – (*Los Angeles Times, January 19,2023*)

Independence on us what we are choosing to use including new tool in classroom should be judiciously. There must be considered ethics quality when integrating.

## IX. SOME IMPORTANT AI TOOLS

AI tools which helps in educational field:

- **Fetchy:** It empowers educators to enhance where teaching methods optimize time management and develop confidence and decision making, generate lesson plans find math and science experiments.
- **Ivy Chatbot:** It is a set of chatbot AI tools particularly designed for college and universities – such as enrollment, application form, deadline fee et cetera and also plan recruitment campaign through collected.
- **Cognii:** Help students to open response one to one tutorial provided by Cognii and real time feedback.
- **Genei:** Upload document it will generate abstract from an article.
- **Explaining like I'M FIVE:** explain learners as a 5 years student at its level to any topic.
- **AI -Powered Article Summarizes:** it's summarized over all article and it also save time.
- **AI powered quiz maker.**
- **Copilot:** create comprehensive lesson plans, Power Point presentation, context builder, writing prompts, project.
- **Research Rabbit:** tool to do quality literature survey.
- **Trinka:** used for correct spelling, grammar check, grammar language check, catch mistakes.
- **Tome:** to create presentation slides.

- **Pros of using AI in Education:**

- Using AI tool save time for teacher's professors or educators and learners.
- AI personalized assistance assist the students.
- help educators to enhance quality of content, improving teaching strategies, methods to improve students' learning.
- 24×7 availability of AI tools works endlessly without brakes think much faster than humans and perform multiple task with accurate results.
- AI can provide accurate work with greater responsibility at zero risk.
- For example, automated production management
- Reduce human errors
- Works very faster to perform any task.

- **Cons of using AI in Educational Field:**

- Using AI in excess we will experience big disadvantage further future. We cannot think out of the box. It is difficult two adjust between outer experience and bookish knowledge.
- Student will try to find quick solution students will face problem in having patience and perseverance.
- Use much AI tools can lower down the creativity and thinking capability to analyze and brain storming. The learners will not use their brain to find out solutions.
- Human can become lazy to complete tasks.
- The robots, Chatbots replacing humans to increase efficiency of work. It can also work uncontrollably if the system dysfunctions it can be harmful.
- AI launcher also said that stop AI 467 months after launching because they are understanding and can see the dangers which will take place in the future.
- No guarantee for privacy concerns.

## **X. SUGGESTIONS**

The rapid progress of AI has raised a number of concerns. It is good and very beneficial to use if we know how to use AI tools ethically for learning and work purpose but if we don't know how to use wisely and ethically this tool can be dangerous for the world. The ethical and responsible implementation of AI tools is crucial to ensure the complement and enhance role of educators rather than replacing them from jobs.

Some jobs can be replaced by AI like – cashiers, Data entry clerks, Accounting, Book keeping, Payroll clerks can be declined jobs.

Students can focus on fastest growing jobs due to AI in upcoming years – AI machines, learning specialist, fin tech engineers, animators, Electro technology engineers, Data analyst, agriculture equipment operators, environmental protection professionals.

## XI. CONCLUSION

With the help of AI, we create more efficient integrated and inclusive educational environment which empowers learners to become critical thinker and lifelong learners. Many machines invented in the past and still we are using those machines we operate these machines with the help of human operators but AI is not only a machine it is a simulation of intelligence in machines after training and feeding information it don't need again command it use its own intelligence which is much faster than human brain and do work better than humans. it can replace humans from their jobs so government and scientist should focus on this concerned and provide solution to overcome the fear of losing jobs and unemployment we all citizens should also give contribution to use it in well manner.

## XII. VIEW OF SOME POPULAR PERSONALITIES ON AI

- **Bill gates (Microsoft co – founder):** “AI will change the human living and their working styles.”
- **Pm Narendra Modi:** “we want India to become a global hub for ai and it is also responsibility of citizens to use it wisely in ethical way.”

A power of technology is coming which will used for both good and bad purpose the solution in our view is that we have to upgrade ourselves according to AI world and try to learn the use of it in an efficient and productive way that we can create something good and different with the help of AI for social welfare and make aware others to about this technology.

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