Artificial Intelligence (AI)

The amount of data generated today outpaces humans' ability to absorb, interpret, and make complex decisions based on all that data. AI forms the basis for all computer learning and is the future of all complex decision making. As an example, most humans can figure out how to not lose at tic-tac-toe, even though there are 255,168 unique moves. Far fewer humans are grand champions of checkers, with more than 500,000,000,000,000,000,000 "500 quintillion" moves. In 1996 the IBM "Deep Blue" supercomputer beat the world chess champion. Computers are extremely efficient at calculating these combinations and permutations to arrive at the best decision every time given the right data far better and faster than the smartest human in the world.

What is AI?

Artificial intelligence (AI) was first defined in 1956 as attempting to make computers think and act based on the best data. It requires three things: a computer, data, and algorithms (code). Today we have massive computing power, an Internet full of data or complex sensors to learn from, and thousands of companies writing algorithms. It has led to the creation of machine learning, deep learning, predictive analytics, and now to prescriptive analytics. AI is not robotics, although most robots use AI.

In recent months, OpenAI's ChatGPT chatbot has exploded onto the scene. It was followed by an AI version of Microsoft Bing search engine and the conversational Bard AI from Google. AI has the potential to transform every corner of society. "It will change the way people work, learn, travel, get health care and communicate with each other." said Microsoft cofounder Bill Gates. Not all AI chatbots are built the same. ChatGPT, uses GPT-4 (versus 3.5 for the free version). GPT stands for "generative pretrained transformer." Bard is currently in an invite-only beta, and Bing is free but requires people to use Microsoft's Edge web browser.

AI can answer questions on almost any topic, including finance, health care and technology. Conversational bots can provide mental stimulation and companionship. AI is far from perfect today, it makes factual errors and sometimes spits out baffling results. AI does not have to be perfect to be useful, it just has to provide a better solution than what it is replacing. Over time it can learn and improve to provide the best solution available.

To become good at a task or job each human must spend years going to schools, reading books, apprenticing, interning, and much more to learn. An AI can acquire more advanced subject knowledge, respond in seconds, and do it for free or a fraction of the cost.
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Current AI Examples

- Spelling and grammar evolved over the years. Learn your misspellings, suggest words, and predict your next word. No need for a dictionary or thesaurus anymore that was needed on every desk in the past.
- Create, fix and improve photos, video, and voice.
- Map car routes using live data like accidents, constructions, special events, weather, and traffic.
- Self driving cars get better every day. AI driving does not have to be perfect, it just has to be better than the average human driver.
- Search engines traditionally provide a list of links to websites that most closely match a person's query, AI uses a large language model (LLM) to produce sentences that mimic a human response using the best data. It's been described as autocorrect on steroids.
- Windows itself now includes built-in support for AI functions like machine learning. It's a matter of balancing intrusion with helpfulness. Does anyone remember Microsoft Clippy assistant?
- ChatGPT is close to or has passed the 1950 Turing test. It did so by fooling a panel of judges into thinking that it was a human. This was accomplished through a combination of natural language processing, dialogue management, and social skills.
- Smart home devices/services like Alexa with voice recognition and dialog.
- Robots can learn to walk by trying 1000s of moves and discarding those that do and work, just like a baby learns.
- Roomba vacuum cleaner and Patriot missile are autonomous in performing a task. This includes encountering and responding to obstacles, problems, and unforeseen circumstances with minimal human oversight,
- Smart watches with health features, detect falls, AFib, and much more.
- Medical Dr goes to school for years and then interns to learn as much as possible. AI can access all the best old and new data available and make the best decision. Who would not want to have the best qualified Dr AI?

Friend or Foe?

The 2023 AI Index Report asked people from 28 countries if they agree with the following statement: "Products and services using AI have more benefits than drawbacks." Chinese respondents were the most likely to agree than any other

country surveyed, at 78%, followed by Saudi Arabia (76%) and India (71%). Only 35% of Americans, among the lowest of surveyed countries, agreed that products and services using AI had more benefits than drawbacks. After the US, the Netherlands, Canada, and France were the countries with the least positive sentiment toward AI.

Apple cofounder Steve Wozniak and OpenAI cofounder Elon Musk are among more than 2,000+ tech luminaries to sign an open letter calling on "all AI labs to immediately pause for at least six months the training of AI systems". To take a pause would require the entire world to pause, which is not possible and will not happen. It would only hurt the companies or countries that pause. New laws, regulations, and treaties may be needed to reap the benefits, but we must also watch and manage the risks.

AI Risks:
- Hallucinations - Misunderstanding of your question or a blatantly wrong answer. AI is only as good as the data that is loaded and algorithms used, GIGO "Garbage in, Garbage out". If it is loaded with bad data an AI will error with confidence the same as a human does with bad or limited training.
- Algorithmic bias - Caused by bad data, limited data, or bad code.
- Deepfakes or Scams - Easy to create and hard to detect, photo, video, voice, and text.
- Data privacy & Copyright - Who owns the original data loaded and the data users enter.
- Cybersecurity - Code generation can fall into the wrong hands.
- Human jobs replaced - AI will improve or replace almost every job or task we do today.
- Market volatility - Data or answers can change over time, what is the lag.
- Weapons automatization - No human moral judgment in AI.

AI can be a tool to improve or replace almost every job or task we do today. Goldman Sachs says that AI could automate 25% of the entire labor market but can automate 46% of tasks in administrative jobs, 44% of legal jobs, and 37% of architecture and engineering professions. AI is the least threatening to labor-intensive careers like construction (6%), installation and repair (4%), and maintenance (1%). Goldman Sachs anticipates that displaced workers will become reemployed in jobs that emerge as a direct result of widespread AI adoption. Jobs that have clear understandable rules are easy to train an AI.

PC Mag - 10 Jobs that could disappear any day now due to AI. Accountants, Content Moderators, Legal Assistants, Proofreaders, Traders,Transcribers, Graphic Designers, Customer Service, Soldiers, and Writers.
https://www.pcmag.com/news/10-jobs-that-could-disappear-any-day-now-thanks-to-ai

AI replaced fortune cookie writers that were paid 75 cents a fortune. Robot lawyers are banned from court. A company planned to use AI-powered software in court to listen to arguments and come up with defendant responses. But lawyers said the technology powering the program - which runs on a smartphone - is not legal in most courtrooms.

Additional Links and Information
- Auto-GPT was created March 30, 2023 to complete even more advanced tasks, with fewer prompts.
- You are all welcome to be a "Doubting Thomas" about AI.
- There will never be one AI that does everything and is always correct. Today robots do 1-2 tasks, in the future they will do 1000s of tasks with great precision.
- AI PDF summarizer:
  https://www.zdnet.com/article/this-ai-chatbot-can-sum-up-any-pdf-and-any-question-you-have-about-it
- ChatGPT: 7 Things to Ask the AI Chatbot from PC Mag
  - Ask Basic Questions - What is the distance from the earth to the sun
  - Explain Complex Topics - Explain how chatgpt works. Explain this to me as if I were a child
  - Write a Resume and Cover Letter
  - Summarize Articles
  - Generate a Recipe - give me a recipe for chili
  - Write an eMail - write an email to my boss asking for a promotion
  - Solve Math Equations - x-10+14 = 0 what does x equal

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