

Artificial Intelligence

Artificial intelligence is a technology that many people do not know the technology works. This technology is found virtually in any software as well as hardware. It is rare finding a piece of modern technology that does not use artificial intelligence that benefits the user, the company that made the product, or both. In this paper, I will talk about the basics of understanding AI technology, where it can be found, and what the future hold for the tech industry with AI.

These days, AI can be found in virtually all facets of our technological world. It exists in online shopping, cities and infrastructure, cars, cyber security, healthcare, public transportation, and even industries like agriculture and manufacturing. One major industry that highly utilizes AI technology is the mobile app industry. Most mobile apps and devices have some sort of AI built in, ranging from Siri or Google Assistant, which have control of many aspects of the mobile device and apps, to an AI in a mobile game like Clash Royal which just simply matches you up with player of similar skill level. It is guaranteed that when one opens their iPhone or any Android phone, the vast majority of apps on their device utilize some sort of AI technology.

What is artificial intelligence? The basic definition is: "Artificial intelligence (AI) is a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence" (builtin). There are four categories of AI computers/programs, they are: Reactive Machines, Limited Memory, Theory of Mind, and Self-Awareness. Let us start with the first one – reactive machines, which are the most basic

form of AI. The only thing the program does is react to current scenarios but cannot be taught or recall data from the past to overcome a scenario. The main example for Reactive Machines is IBM's chess program that beat Garry Kasparov in the 1990s. The AI player in the chess game only reacts to the human player's moves, without having to learn the game over time. Limited Memory is an AI that has an ability to store data and predictions from previous experiences and uses that data to make "better" predictions. One example of Limited Memory AI are self-driving cars, or rather the software that is the program of self-driving. For context, "self-driving cars use sensors to identify civilians crossing the road, steep roads, traffic signals and so on to make better driving decisions" (Edureka). Because of this, Limited Memory is more complex than Reactive Machines. Theory of Mind is AI that becomes more complex than the previous two. This AI interacts with thoughts and emotions. This is where AI technology is moving towards a theoretical direction. This AI technology does not currently exist, mostly due to there not being any AI program that can understand Human emotions, or any emotions rather. There is not real example of Theory of Mind that can be given in this paper, perhaps soon, we will see this technology. The final AI category is Self-Awareness, which is also theoretical and does not exist as of today. Self-Awareness refers to AI that is self-aware. AI with this technology is "machines are aware of themselves and perceive their internal states and others' emotions, behaviors, and acumen" (Express Computer). Self-aware AI do not exist today, and no one knows if they ever will be, or if they should be implemented at all. This is undoubtedly the most complex form of AI humans will develop.

Now that we know what artificial intelligence is and the four types that are categorized, now let us see what apps that we all use today use AI technology on a major scale. The three

that first come to mind are Siri, Google Assistant, and Alexa. All three of these apps are assistant apps for users that use their hardware and even software. Assistant apps are apps that can detect and understand a user's speech and assist them with tasks like looking up today's weather, setting an alarm, or even looking something up on the internet. We have all heard the phrases, "Hey Siri", or "Hey Alexa." All three main assistant apps are basically the same. Siri can be found on virtually any Apple device. Google assistant can be found on any Android device, google hardware, or even google chrome app or google maps on any hardware. Alexa can be found on Amazon hardware like "Alexa" which just doubles as a regular speaker and a virtual assistant. There are two popular apps that use a different kind of AI technology, and they are Photomath and Socratic. Both are very similar apps, they both help students with their math homework by students taking pictures of a math problem on their phone camera, and an AI in the app solves the problem, and shows visual explanations. The app uses text and speech recognition as well for topics like not only like math, but science, literature, and social studies. One very common example of an app using AI is Google Maps. One part of it that comes to mind is the navigation the app provides. The app tries to find the fastest possible route to a destination put in by the user. The AI on Google Maps can also change its behavior based on preferences the user selects on the app, like for example, avoiding tolls, or stop lights. Google Maps also can use AI to update information about traffic, car accidents, or road closers in almost real time. Another keyway Google Maps utilizes AI is by the application being able to update information about businesses, like change in ours open for example. There a many other apps that use AI technology, most of the apps on your phone have some sort of AI in them.

The future of AI in mobile apps and mobile devices is looking very strong. According to experts, the artificial intelligence industry will reach around \$47 billion by the end of 2022. This means that AI technology will only improve and will have a priority in mobile app development, as well as in other industries. AI in mobile applications or devices can open numerous possibilities. Apple and Google are looking into ways for AI to be able to personalize user experience from the mobile apps they use. Most apps that release these days have AI systems built in. Many apps fail shortly after release because they fail to keep their users engaged. Apps that have an AI that can provide recommendations to users are better at retaining users.

Artificial Intelligence will get more and more popular in all categories of our life. The industry that is going to see a lot of growth in AI development is mobile app industry. Due to most apps on our phones having some sort of AI program improving our user experience or making recommendations. Our phones also come with a built-in virtual assistance which help many of us with everyday tasks. It is exciting to see what the future in the industry holds.

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admin_hypersense. "What Are Reactive Machines in Ai? What Are Some of the Examples?" *Analytics Platform*, 27 Dec. 2021, <https://hypersense.subex.com/aiglossary/reactive-machines/#:~:text=The%20reactive%20machine%20type%20is,live%20observations%20of%20the%20environment>.

admin_hypersense. "What Is Limited Memory in Ai?" *Analytics Platform*, 27 Dec. 2021, <https://hypersense.subex.com/aiglossary/limited-memory/#:~:text=Limited%20memory%20is%20a%20type,becomes%20a%20little%20more%20complex>.

“Artificial Intelligence.” *BuiltIn*, <https://builtin.com/artificial-intelligence>.

By: IBM Cloud Education. “What Is Artificial Intelligence (AI)?” *IBM*, <https://www.ibm.com/cloud/learn/what-is-artificial-intelligence>.

Express Computer. “What If Ai Becomes Self-Aware?” *Express Computer*, 8 Dec. 2021, [https://www.expresscomputer.in/artificial-intelligence-ai/what-if-ai-becomes-self-aware/81828/#:~:text=an%20example%20here\)-,%E2%80%A2,human%2Dlevel%20consciousness%20and%20intelligence](https://www.expresscomputer.in/artificial-intelligence-ai/what-if-ai-becomes-self-aware/81828/#:~:text=an%20example%20here)-,%E2%80%A2,human%2Dlevel%20consciousness%20and%20intelligence).

GN, Chethan Kumar. “Artificial Intelligence: Definition, Types, Examples, Technologies.” *Medium*, Medium, 22 Aug. 2019, <https://chethankumargn.medium.com/artificial-intelligence-definition-types-examples-technologies-962ea75c7b9b>.

Groden-Morrison, Amy. “Ai Is the Future of Mobile.” *alpha_software_white*, <https://www.alphasoftware.com/blog/ai-is-the-future-of-mobile>.

Inc, Novateus. “What Does the Future of Mobile App Development Look like?” *Novateus*, 3 Oct. 2021, <https://novateus.com/blog/future-of-mobile-app-development-look-like/#:~:text=According%20to%20research%20experts%20at,comes%20to%20mobile%20app%20development>.

Lokare, Roshni. “Type 3 of Functional AI- Theory of Mind Ai.” *Medium*, Appengine.ai, 13 July 2021, <https://medium.com/appengine-ai/type-3-of-functional-ai-theory-of-mind-ai-33205c8b640e#:~:text=Theory%20of%20mind%20is%20the,multiple%20factors%2C%20like%20understanding%20humans>.

“Top 10 Artificial Intelligence Apps in the Market.” *Artificial Intelligence, Big Data Analytics and Insight*, 23 July 2021, <https://www.analyticsinsight.net/top-10-artificial-intelligence-apps-in-the-market/>.

“What Are the Types of Artificial Intelligence?: Branches of Ai.” *Edureka*, 29 July 2021, <https://www.edureka.co/blog/types-of-artificial-intelligence/>.

“What Is Artificial Intelligence and How Is It Used?: News: European Parliament.” *What Is Artificial Intelligence and How Is It Used? | News | European Parliament*, 29 Mar. 2021, <https://www.europarl.europa.eu/news/en/headlines/society/20200827STO85804/what-is-artificial-intelligence-and-how-is-it-used>.