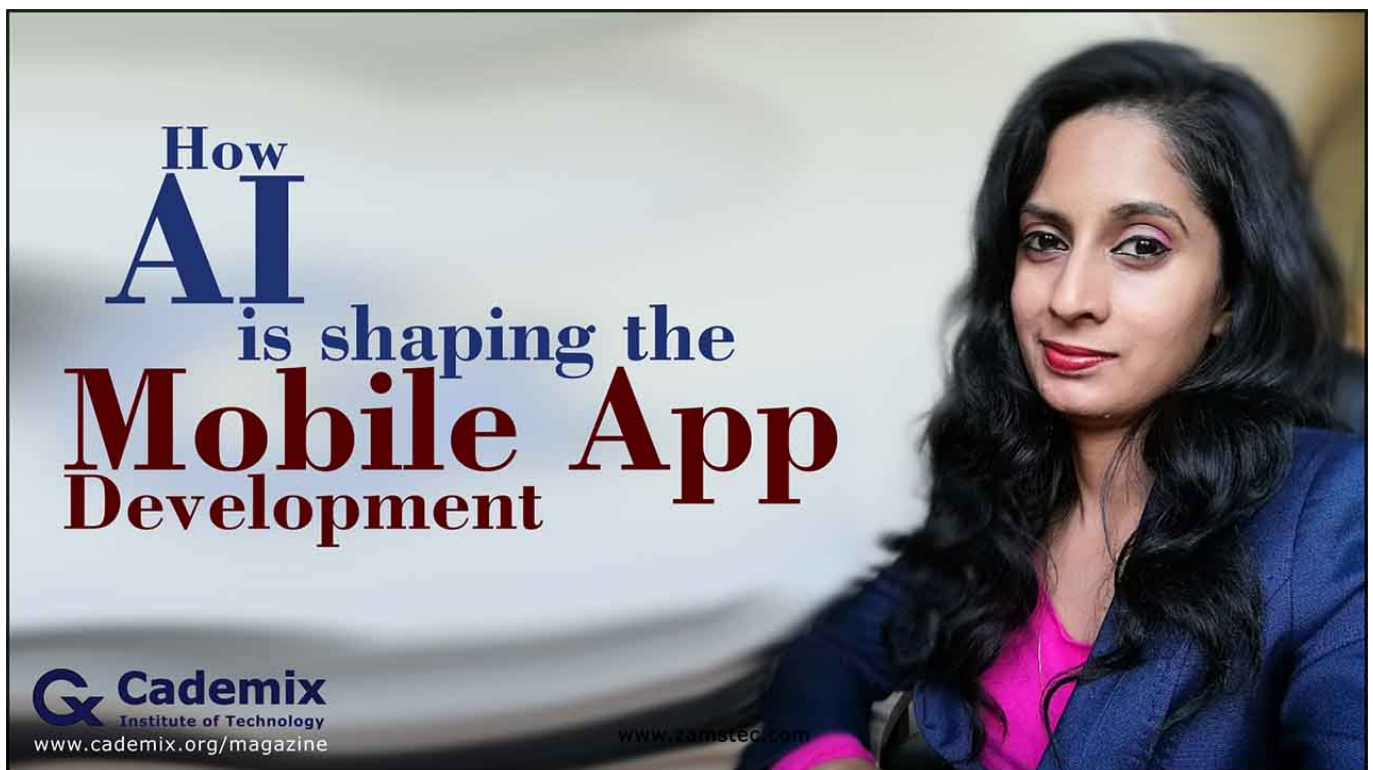


Estimated Reading Time: 8 minutes

How AI is Shaping Mobile App Development

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This article describes the AI Technologies in App Development and how they are shaping the future of the Mobile App industry.



What is AI?

The term 'Artificial Intelligence' has now become one of the most used buzzwords in the modern world. In simple terms, it is the capability of a processor to replicate human-like intelligence to analyse a given situation and react or make decisions based on a set of given algorithms that has been trained using billions of meaningful data or 'Big Data'. Moreover it is important to evaluate neural layers that are used for machine learning.

Artificial intelligence certainly has a lot to offer the world in terms of technological advancements. However, there are still a lot of uncertainties surrounding the technology as it is still relatively new and needs more time to mature. Even then, the pros of AI technologies outway the cons in an unprecedented amount.



It is convenient to have AI take over tedious, everyday tasks. Smart homes, buildings and office spaces using a combination of IoT technology and AI can reduce energy usage. A combination of humans and intelligent machines in the workplace increases productivity by letting AI take over repetitive tasks, and letting employees do more creative work. AI can prevent and reduce human mistakes and risks, especially with driving. Self-driving cars are believed to reduce vehicle accidents. AI allows for the exploration of locations that might not be accessible to humans like space, ocean, mining and fuel expeditions. Robots can endure risky or dangerous environments that humans cannot.

However, artificial intelligence is still a relatively new concept and people remain unsure about the technology. There is a negative connotation associated with AI in that they are rogue robots taking over the world and replacing people in the workforce. It still needs time to mature and gain trust from the public. Another drawback is the inability to make decisions based on human feelings and emotion. Moreover, AI driven projects are costly due to the sheer amount of data and resources required for the training and maintenance purposes. Hence it still remains in the hands of a few giant companies.

Mobile Apps embedded with AI capabilities

Nowadays we see a lot of AI in Mobile App Development. Artificial intelligence powered virtual assistants like *Alexa* from Amazon, *Google Assistant* by Google and Apple's *Siri*, have all become part and parcel of our everyday life in 2020. From helping us decide how to cloth for the day by forecasting the weather, to convert ounces into grams while baking a cake, practical implementation of artificial intelligence technologies include voice-recognition, predictive messaging, route planning, understanding of natural language, object detection, facial recognition and even problem-solving.

Believe it or not, in this day and age, there is an 'app' for everything! From tracking the TV shows you binge watch to help you meditate there is an explosion of mobile apps. AI technology is growing unremittingly and mobile applications leveraging this technology are also gaining momentum. The inclusion of AI allows mobile apps to 'learn' from data generated by the user. It empowers mobile apps by making them intelligent pieces of software that can predict user behavior and make clever decisions. Businesses investing in mobile apps embedded with machine learning capabilities will benefit greatly from the predictive analysis, which will give them a competitive edge in the market. With the advent of AI enhanced mobile apps, it is expected that users will be linked more and more to an ecosystem of intelligent applications that work together to deliver a personalized user experience.

Looking into the future, mobile apps powered by AI will become a norm if businesses want to remain relevant and keep up with customer demands and enhance user satisfaction. Users are expecting unique and personalized experience from new apps, such as behaviour tracking and personalised recommendations based on individual preferences. This gives more incentive for users to consume products and business services. Assistance with repetitive everyday tasks is much appreciated by modern society as a whole and this in turn drives the creation of AI infused mobile apps, which can be called 'Smart Apps'.

Here are few handpicked everyday mobile apps and devices which have already embraced the potential of AI related technologies.

Virtual Assistants like Apple's [Siri](#), among many others mentioned above, can use voice queries and a natural-language interpreting user interface to answer questions, make recommendations, and perform actions by delegating requests to a set of Internet services. Everyday tasks like sending and reading messages, making calls while driving, setting alarms, timers, reminders, getting directions and finding songs can be done at your command all with the help of machine learning.

Starbucks Virtual Assistant - Starbucks mobile app allows placement of order by either a voice command or messaging powered by artificial intelligence.



Bellus3D FaceApp - utilizes the Apple TrueDepth Face ID Camera to capture and reproduce high-resolution lifelike 3D selfies and can facilitate 3D face scanning and 3D face recognition with the help of deep learning technology.

TacoBot - The chatbot functions together with popular workplace chat app Slack and takes orders as voice commands and offers personalised suggestions too. Once payment is done through TacoBot you can pick up your food at a nearby TacoBell restaurant.

[Amazon Alexa](#) or [Google Home](#) realizes the concept of 'Smart Homes' by combining Internet of Things (IoT) technology and artificial intelligence technologies to control thermostat, lock front doors and turn lights off along with other trivial virtual assistance tasks mentioned above.

Industrial State of the Art

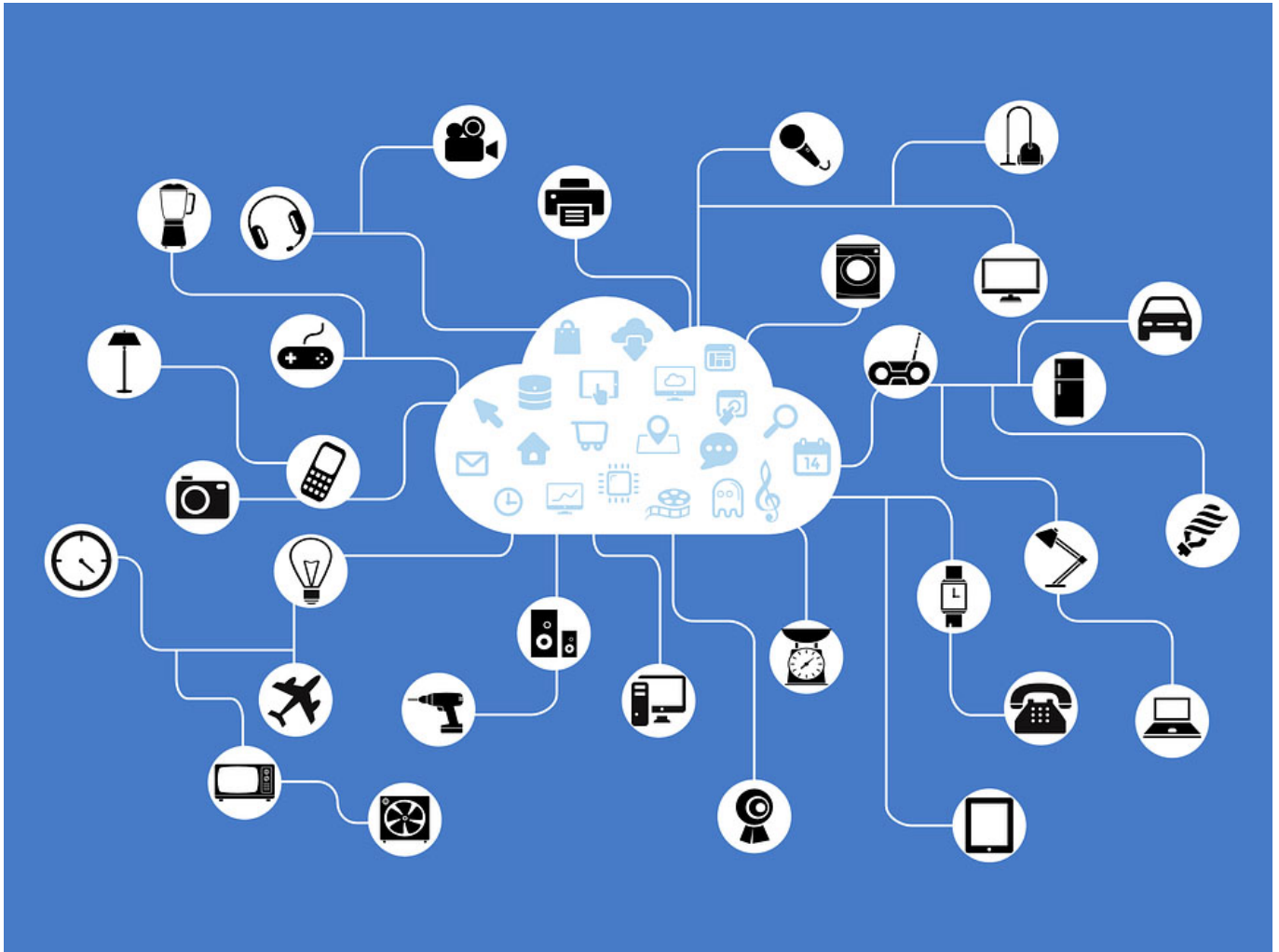
The industry uses machine learning and data science to solve the business problems. The pattern recognition using a neural network consists of complex procedures. It is relatively difficult to construct new algorithms for the pattern recognition systems using neural networks from scratch using only numpy in Python. Here the incorporation of an open source framework is highly welcome in industry. The main purpose of using machine learning algorithms is to generate a classifier that monitors the systems. This also includes multiple steps to evaluate the classification experiments using the nearest neighbour analysis.

One may pursue a bachelor's degree in computer science discipline to learn the theoretical part of the expertise. The industry however requires practical experience that can be only acquired within an internship or pathway program. Therefore the job seekers may need to consider the industrial requirements.

Industries using AI

AI has already made a global impact with the creation of conversational chatbots, self-driving cars, and recommendation systems. Multiple industries have already embraced AI technologies like automotive and healthcare sectors.

Automotive: Alexa has already moved from homes into Ford cars providing features like checking the weather, playing audiobooks and adding items to the shopping list while driving the car! The days of 'Driverless Cars' being a normal sight are not far off as tech giants Google and Tesla are investing millions into making this a reality. Tesla's already functional assisted driving and fully-automated driving features are waiting for approval before switching to driverless mode. AI driven safety features like automatic braking, pedestrian and cyclist alerts and cruise control are available widely.



Healthcare: In A healthcare system, the tedious tasks of collecting, storing and managing medical data can be assigned to AI technologies. It also helps with choosing the apt treatment plan for patients based on evidence by analyzing thousands of already available clinical notes and expert reports. IBM Watson for Oncology is a popular example. Medical Sieve, is another IBM research project aiming at developing a cognitive assistant system for radiologists and cardiologists in quickly detecting anomalies using holistic clinical information derived from imaging, text and clinical data.

Law: ROSS is powered by industry’s most advanced artificial *intelligence which* answers legal questions like a research associate. Lawyers are able to ask questions to the AI as if they were speaking to another lawyer. The AI receives answers from previous cases from the database of American Case Law for Federal or State Courts. Ross tracks any updates in the law and sends you notifications of any recent legal updates which pertains to your legal issue or case.



Finance: In banking, AI is helping clients better manage their money and spending habits. Banks like RBC are doing this by launching an AI to analyze and track spending to help customers save money. The goal is to help clients have better control over their finances. Some banks like [Wells Fargo](#) also use AI chatbots so customers can discuss everyday banking activities like their account information or resetting their account password.

Education: AI powered 'Teaching Assistants' help students ask routine straightforward questions online. Grading test results is another area where AI is being used; especially for multiple choice and one word answers. In addition, we can deploy speech recognition interfaces that take students' voices as input. The AI technology is applicable as a natural language processing tool to identify lines and devices in portable mini-educations.



AI is growing in its reputation among business leaders as an emerging asset to the workforce transforming the way businesses and societies operate.

Conclusion

It is not an exaggeration to say that the smartphone industry is being revolutionized by AI. This makes it important to enable AI in your business and mobile applications.

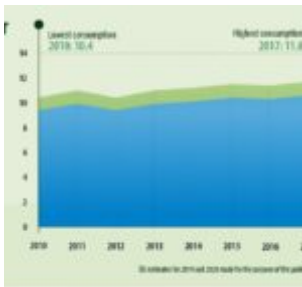
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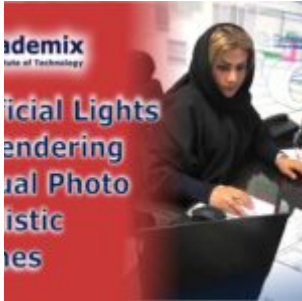
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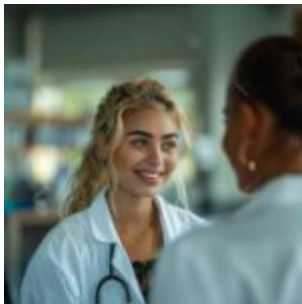
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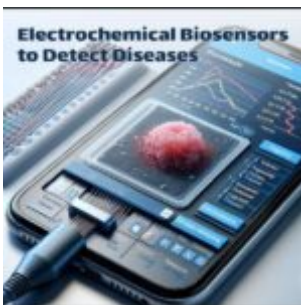
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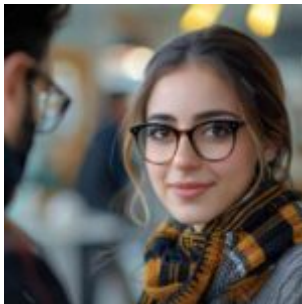
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