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Artificial Intelligence around Us

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In 1956, American computer scientist John McCarthy organized the Dartmouth Conference, at which the term ‘Artificial Intelligence’ was first adopted. Research centers appeared across the United States to explore the potential of AI. Researchers Allen Newell and Herbert Simon were instrumental in promoting AI as a field of computer science that could transform the world. However, despite this well-funded global effort over several decades, computer scientists found it incredibly difficult to create intelligence in machines.

Nowadays machine learning continued its rising, largely thanks to improvements in computer hardware. Corporations and governments successfully used machine-learning methods in narrow domains. In the past 15 years, Amazon, Google, Baidu, and others leveraged machine learning to their huge commercial advantage [1].

The concept of self-programming computers was closer to science fiction than reality just ten years ago. Today, we feel comfortable conversing with smart personal assistant like Siri and keep wondering just how Spotify guessed what we like [2].

It’s not just the mobile apps that are becoming more “intelligent”. Marketing & advertising industry is among those sectors who have utilized AI technology in creating better business opportunities. In digital advertising using data to make a decision isn’t a new concept. The online advertising industry has been familiar with AI and has used the technology for creating better decisions to inspire innovation [3].

One area where AI excels, and its capabilities are undoubtedly unquestionable, is programmatic advertising: a world where billions of impressions are auctioned off in a split second off the back of compelling data [4].

Thanks to robust analytical capabilities, ML-algorithms can create the perfect recipe for your ad, displaying it at the right time to the right people. Google has already been experimenting with various optimizations for mobile search ads. The results so far are rather promising [2].

The best part is that AI-powered advertising is no longer cost-prohibitive for smaller companies. With new solutions entering the market, it would be interesting to observe how the face of mobile advertising will change in 2019 and onward [2].

Due to the ever-expanding applications of AI, it will not only change our workplace but will also change the way we live in our homes. The availability of smart electronic devices is on the rise, which can be controlled by apps through smartphones and tablets.

Gadgets like Amazon's Echo and Google home connects different devices to each other through the Internet of things (IOT) by voice command [5].

Similarly, through a facial recognition algorithm, an AI-powered system builds a catalog of known individuals through your social media connections and home visits, which helps it to understand between family members, guests, and visitors.

One of the beauties behind automation is machine learning. Smart home devices available now not only react to people's movements and commands, but they learn and adopt. With consumers buying more Wi-Fi enabled devices, outlets are filling up fast in homes and the smart meter is tallying energy used accurately in real time. An example of this would be leaving the heater on and instead of smacking your head when you get to work, you can use your mobile device to turn off the heater and not rack up the added expense of heating an

empty house. The time spent on small tasks like turning on the TV, changing the thermostat setting and turning off a light switch are seconds in reality, but added up multiple times a day over the course of a week, month or year are significant. Home automation devices are changing all those tasks so they are automatic [6].

While most of the attention has been on advanced driver assistance systems (ADAS) and autonomous driving, AI will penetrate far deeper into the car.

Inward-facing AI cameras can be used to prevent accidents before they occur. These are currently widely deployed in commercial vehicles and trucks to monitor drivers to detect inebriation, distraction, drowsiness and fatigue to alert the driver. AI also can help reduce crash severity in the event of an accident. Computer vision and sensor fusion will detect whether seat belts are fastened and estimate body size to calibrate airbag deployment. Beyond safety, AI also will improve the user experience. Vehicles as a consumer product have lagged far behind laptops, tablets, TVs and mobile phones. AI also can be used to help diagnose and even predict maintenance events. Currently, vehicle sensors produce a huge amount of data, but only spit out simple codes that a mechanic can use for diagnosis. AI can be used to create high-definition maps that can be used for vehicle localization, identifying road locations and facades of addresses to supplement in-dash navigation systems, monitoring traffic and pedestrian movements and monitoring crime, as well as a variety of new emerging use cases [7].

Artificial Intelligence is a technology where machines show intelligence, but not at the par of human beings, but their evolution will surprise you on how strikingly similar they can be to humans. Some robots mimic human emotions with fair accuracy [8]. Once it arrives, general AI will begin taking jobs away from people. In one possible scenario, it will free us to

pursue our dreams unburdened by the need to earn a living. In another, it will create staggering wealth inequalities of different countries across for the globe. But the revolution will go much further.

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