

# Artificial Intelligence and its impact on the society

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## **Impact of Artificial Intelligence on society**

Artificial Intelligence is nothing but the Machine intelligence. Children today are growing up with AI assistants in their homes (Google Assistant, Siri and Alexa) -- to the point that you might consider their mere presence an extension of co-parenting. As voice and facial recognition continue to evolve, machine learning algorithms are getting smarter. More and more industries are being influenced by AI, and our society as we know it is transforming.

### Meaning of Artificial Intelligence

Artificial intelligence (AI) is an area of computer science that emphasizes the creation of intelligent machines that work and react like humans. Some of the activities computers with artificial intelligence are designed for include:

Speech recognition

Learning

Planning

Problem solving

Artificial intelligence is a branch of computer science that aims to create intelligent machines. It has become an essential part of the technology industry.

Research associated with artificial intelligence is highly technical and specialized. The core problems of artificial intelligence include programming computers for certain traits such as:

Knowledge

Reasoning

Problem solving

Perception

Learning

Planning

Ability to manipulate and

move objects

Transportation

The transportation industry looks like it will be the first to be completely disordered by artificial intelligence. In

fact, a lot of the impact of AI is already taking place. Uber and Lyft are both working on self-driving technology. GPS navigation software company Waze (which was acquired by Google in 2013) quietly released a new app called CarPool that converts its 50-plus million users into drivers and allows users to commute to work together for a fee. Waymo (formerly the Google self-driving car project) reached 5 million miles driven on public roads.

It seems that Tesla has already beaten most other competitors to market with its autopilot feature. Tesla now has over 300 million miles driven on autopilot, and all Tesla vehicles on the road today are only a software update away from fully autonomous driving capability. Tesla is also looking to disrupt the trucking industry with its new autonomous vehicle called the Semi. Walmart says it's already preordered 15 of Tesla's electric/AI-powered tractor trailers.

It is not a matter of if but when these companies can perfect the technology and cut through government red tape. Think about how many hours of human productivity can be saved when we put an end to mindless driving and commuting through city traffic?

The automation of the ride-hailing economy is not only going to save society time, but it's also going to reduce the cost of transportation drastically. Soon enough, requesting a self-driving vehicle will cost as much

as taking the bus, and driving a car is going to be as antiquated as riding a horse and buggy.

#### Criminal Justice

The next industry disrupted by artificial intelligence is the criminal justice system. Advancements in facial recognition are making the fingerprint obsolete. Tech startups are using AI to automate legal work. Meanwhile, some courts are already using AI to sentence criminals and determine parole eligibility.

But the criminal justice system is the one area where too much innovation could be a terrible thing for society and lead us into a dystopian future if we are not careful. At this year's SXSW, Elon Musk said, "AI is far more dangerous than nukes. Far. So why do we have no regulatory oversight?"

Without proper government regulations of artificial intelligence and machine learning, we are at risk of major disruptions to our democracy:

- Does the government's use of AI require a warrant to search your online data?

Can AI be used to listen in on American citizens' phone calls without a warrant?

How can you subpoena an AI algorithm to testify so you can face your accuser in a court of law?

How do we handle malpractice when AI recommends improper handling of a legal case?

These are just a few of the legal questions raised when introducing

autonomous, decision making technology into our criminal justice system.

One potential solution is to keep these government systems open source so that the code can be scrutinized for built-in biases.

In 2016, software used across the country to predict recidivism of people eligible for parole was found to be biased against African Americans. Unfortunately, when your data is biased, it can create biased algorithms. Keeping this type of software open source would allow the public to inspect and improve the algorithms so that they are fair and balanced.

### **Advertising**

Finally, artificial intelligence is going to take targeted/personalized advertising to a whole other level. If you think the Facebook Cambridge Analytica scandal was bad, then you have no idea what's in store in the next decade.

Advertisers are already able to predict what types of ads emotionally impact your purchasing behavior. As time goes on, ads are going to continue to become more tailored to the individual. Imagine Amazon's Alexa slipping sponsored messages into a natural conversation or personalized augmented reality billboard ads that know you by name (think Tom Cruise in *Minority Report*).

Ads are going to continue to become smarter and more embedded in our daily lives thanks to AI.

Machine learning algorithms are building personality profiles on every human being. The amount of data collected by advertisers continues to grow. Related product recommendations, search results and social news feed items are all examples of places where advertisers are embedding smart ads that use AI to target you as an individual consumer.

Slowly, these AI algorithms can learn your behavior, and before you know it, they know you better than you know yourself.

Even today, the impact AI is having on our society cannot be ignored. However, if you want to have a competitive edge and you are willing to prepare for these changes now, there is still plenty of time to be ahead of the curve.

### **Computing**

Advances in the sheer power of computers will lead to artificial intelligence that becomes progressively smarter.

Virtual connectivity will enable integration of relevant computing resources to provide users with integrated and seamless services.

Cloud services will interpret aggregated datasets against patterns to anticipate tasks, activities, and events.

Developments in cloud services will transition computing from a physical experience to a virtual one available to any user via a simple device operating on ubiquitous networks with seamless connectivity.

Big Data pattern analysis will

take place in the background.

Big Data will provide context-awareness capabilities. Developments in cloud computing will transition computing from a physical experience to a virtual one available to any user via a simple device operating on ubiquitous networks with seamless connectivity.

Boundaries between applications and services will be blurred to a high degree.

Every item in will be equipped with a computing and communication core.

### **Surveillance**

Smart sensors, surveillance cameras, and eavesdropping devices integrated with identity recognition systems will allow law enforcement to track and capture or quarantine individuals who might otherwise cause harm to others in society.

Users will be able to integrate physical world data and the logical world data to draw conclusions.

To avoid overwhelming users with choices from the infinite combination of vehicle technologies, vehicle templates and capability modules will be evolved within the gaming environments.

- Organizations with mature security operations functions will often share intelligence, techniques, and process with one another.

Advancements in the business intelligence field will provide tools that will help retailers better understand consumer behavior by examin-

ing behavioural patterns and overall trends.

Predictive analysis and real-time access to artificial intelligence and tasking in the field will be available on modern mobile devices.

### **Implications Social**

Societies will face challenges in realizing technologies that benefit humanity instead of destroying and intruding on the human rights of privacy and freedom of access to information.

Surging capabilities of robots and artificial intelligence will see a range of current jobs supplanted.

Professional roles such as doctors, lawyers and accountants could be replaced by artificial intelligence by the year 2025.

Low-skill workers will reallocate to tasks that are non-susceptible to computerization.

All the risks will arise out of human activity from certain technological development in this technology, synthetic biology, nano techno and artificial intelligence.

### **Business**

There will be big winners and losers as collaborative technologies, robots and artificial intelligence transform the nature of work.

Data expertise is at least as important and will become exponentially more important.

The role of a senior manager in a deeply data-driven world is going to shift.

Information hoarders will slow the pace of their organizations and forsake the power of artificial intelligence while competitors exploit it.

Judgments about consumers and potential consumers will be made instantaneously.

Many organisations will put cyber security on par with other intelligence and defense priorities.

Open source information and artificial intelligence collection will provide opportunities for global technological parity.

In the future, predictive analytics and artificial intelligence could play an even more fundamental role in content creation

#### **Conclusion –**

Knowledge engineering is a core part of AI research. Machines can often act and react like humans only if they have abundant information relating to the world. Artificial intelligence must have access to objects, categories, properties and relations between all of them to implement knowledge engineering. Initiating common sense, reasoning and problem-solving power in machines is a difficult and tedious task.

Machine learning is also a core part of AI. Learning without any kind of supervision requires an ability to identify patterns in streams of inputs, whereas learning with adequate supervision involves classification and numerical regressions.

Classification determines the category an object belongs to and regression deals with obtaining a set of numerical input or output examples, thereby discovering functions enabling the generation of suitable outputs from respective inputs. Mathematical analysis of machine learning algorithms and their performance is a well-defined branch of theoretical computer science often referred to as computational learning theory.

Machine perception deals with the capability to use sensory inputs to deduce the different aspects of the world, while computer vision is the power to analyze visual inputs with a few sub-problems such as facial, object and gesture recognition. Robotics is also a major field related to AI. Robots require intelligence to handle tasks such as object manipulation and navigation, along with sub-problems of localization, motion planning and mapping.

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## Conclusion

Artificial intelligence (A.I.) can be defined as “the capability of a machine to imitate intelligent human behavior” or “an agent’s ability to achieve goals in a wide range of environments.” Artificial Intelligence has many different definitions. In the

headlines of newspaper articles, AI is a machine that thinks, understands languages, solves problems, diagnoses medical conditions, keeps cars on the highways, plays chess, and paints impressionistic imitations of van Gogh paintings. AI is often defined as a computer system with the ability to perform tasks commonly associated with intelligent beings. As this definition somewhat problematically requires us to define intelligence and is inconveniently tautological, artificial intelligence is now commonly defined as a scientific discipline; as the activity that creates machines that can function appropriately and with foresight in their environment.

## References:

<https://www.mainstreamweekly.net/article432.html> (28-03-2019)  
<https://www.forbes.com/sites/forbestechcouncil/2018/06/13/three-impacts-of-artificial-intelligence-on-society/#7a7fe8ba6ec0>  
<https://www.techopedia.com/definition/190/artificial-intelligence>  
<https://shapingtomorrow.com/home/alert/275454-The-Future-of-Intelligence>

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