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# Artificial Intelligence: Transforming Businesses and Services

Artificial Intelligence holds the power to transform every business and service in some way. Rapid advancements thanks to active research in this field are creating more and more tools for various applications. All this has increased the rate of AI adoption in. Everyone is trying to employ Artificial Intelligence and Machine Learning solutions from small businesses to large organizations.



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Computers have come a long way from processing mathematical calculations in the early days to today's powerful systems that process millions of instructions per second. Development of computational technologies has led to empowerment of computing devices with human like capabilities. Such computational technologies were termed as Artificial Intelligence or AI for short. The goal of AI is to mimic human cognition.

Al is an umbrella term used to describe intelligent systems. It is a super set of many underlying technologies with different capabilities. It includes basic yet useful algorithms specialized to imitate day-to-day tasks. Al builds smart software and devices to help automate and perform tasks that were previously impossible to do using machines.

Machine Learning, or ML, is a subset of AI; it includes algorithms that can learn from data on their own with minimum human intervention. It is used to predict new values on similar data. ML works on structured data stored in rows and columns, such as tabular data. It can be used to classify values like pass or fail, healthy or ill, as well as predict real estate prices based on location and other preferences or grades on exams based on students' past scores.

#### **Trends in Al**

Due to advancements in AI and ML technologies, we are now able to develop products and services better than before. AI is now a very common tool

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used every day. Software applications such as face recognition and facial unlocking systems in smartphones, various app image / video filters, Tesla autopilot, Apple Siri, Google Assistant, and Amazon Alexa all use AI and ML behind the scenes.

As a result of the COVID-19 pandemic, organizations began adopting AI solutions at an even faster pace. Some reports suggest that around 50% of big organizations employ AI.



Al and cloud go hand in hand. Adoption of cloudbased Al services is on the rise. Al on the Cloud provides several benefits with scalability being one of the most important. Cloud enables Al to work seamlessly on edge devices like smart watches and smartphones, which do not have enough computational resources to host a powerful Al system. The union of these technologies enables greater Al services to a larger customer base.

Another popular trend is the explainable AI, or xAI. Currently, existing AI technologies suffer from 'black box' issue. AI algorithms are termed as black box algorithms because we do not know what actually led these algorithms to a certain decision. This makes interpretability difficult for developers to explain the decisions made from complex algorithms to non-technical users. As a result, this can make AI less trustworthy – especially in critical uses like in medical sciences. xAI is trying to solve the black box problem by making the algorithms more transparent and justifiable by providing details about which features and properties led to the decision.

Ethics are the core of every industry and is currently a hot topic in AI. Ethics in AI is a very important consideration. It is a powerful tool that can be used for good and development of society. But it can also be used to harm and cause destruction. It depends on the intentions of users and developers. Promotion of ethical usage of AI is an important discussion. The aim is to promote the use of AI for social good. We have a long way to go but may begin to see positive outcomes of this discussion in near future.

#### A better world powered by AI

Benefits of AI are numerous. One of the most promising features of AI is the reduction in human error. We often do get bored of doing repetitive tasks, but AI can do these tasks with the same accuracy, repeatedly. There is no boredom associated with AI solutions, which makes them reliable and prevents the chance of human error or mistakes – thus improving safety and reliability. Here are a few examples:

Helping improving customer experiences to the next level. Thanks to AI, instant customer support is made possible for both textual and speech based conversational methods, even with many simultaneous queries. This became a possibility due to advancements in natural language processing capabilities.

Revolutionizing medical sciences. Be it discovering molecular structures of possible drugs, trying various molecular combinations to find new compounds, detecting various diseases and symptoms in patient with minimum professional help using preliminary reporting's like X-rays, CT scans etc.

Helping predict weather conditions across various regions. Al can predict catastrophes like storms, heavy rain falls, snowfalls, floods, and other possible threats in advance, which helps authorities to save lives and infrastructure around the globe.

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Ai is enabling ground-breaking automation in almost every field. It helps create more services, jobs, and opportunities for everyone. Al is helping mankind create a better world for current and upcoming generations. It holds benefits for everyone. We can leverage the power of Al to transform business and services to bring growth and profits with increased ease.

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