

The role of ai in future technology

[Technology](#), [Information Technology](#)



Artificial intelligence technology of the future is defined by John McCarthy in 1956 as the science and engineering of making intelligent machines especially computer programs.

AI is currently one of the most disruptive classes of technology whose capacity is rapidly improving due to the enhancement of various factors: huge diversity of data collected from various sources; availability of large cheap storage; development of faster and powerful computers and improve AI methods. all these factors have catalyzed and boosted the capabilities of AI. Since last decade AI is ubiquitous and is not only limited to computer science but has evolved to include in other areas like health automobile security education and business application. AI has the capability to deliver a more responsive health service with improved health results even empower people to have more control over their daily health needs. it is seen information technology development in healthcare has been rapidly transiting from products to services to solutions.

Currently medical platforms in healthcare focus on real-time outcome-based care. The next decade is driving towards medical solutions in which AI will play a crucial role to deliver intelligent solutions for both evidence and outcome based health but focusing on preventative care. Moreover there is an explosion on the amount of health data that is now available. In 2013 it was estimated that the volume of health-related data had reached over 4 zettabytes and it is projected that this exponential growth rate to reach 10 times that by 2020 and even beyond to yottabyte 10^{24} proportions. This humongous amount of data has provided platform for AI to structure data and train itself to predict the actual diseases and move towards precision

medicine. National institutes of health describe precision medicine as an emerging approach for disease treatment and prevention that takes into account individual variability in genes environment and lifestyle for each person. It provides more accurate prediction of treatment and prevention strategies for a particular disease.

In the grand challenge of international symposium on biomedical imaging for the creation of computational system for detection of metastatic breast cancer it was found that the combination of ai systems prediction along with human pathologists' diagnoses increased the pathologists success rate to 99.5% an approximate 85% reduction in human error rate. Another area of futuristic research where ai is playing a predominant role is brain-to-machine interfaces which will enable human brain interaction directly with computers and machines. This could possibly cure a ton of incurable diseases. the rapid advancement in field of AI is erasing all healthcare boundaries and enabling care anywhere and everywhere.

AI plays a vital role in unlocking the potential of internet of things IoT applications and its deployments. IoT platforms integrate AI capabilities like machine learning based analytics gaining the ability to detect anomalies that sensors and devices generate. Machine learning approaches coupled with IoT are capable for making operational predictions 20 times faster and accurately as compared to traditional business intelligence which usually monitors numeric thresholds. The international data corporation predicts that by 2019 AI will support all effective IoT efforts and without AI data from the deployments will have limited value. Augmentation of IoT with AI spawns

new products and services. Natural language processing NLP which leverages AI is getting better at communication with people. This technology has an important role in being an efficient reliable consumer friendly virtual assistant. By 2020 85% of customer interactions will be managed without a human garner.

AI robotics machine learning will provide the next phase of development of IoT applications. traditionally robotics system only provide the programmable dimension to machines designed to be involved in repetitive work while AI empowers these machines to function using decision making and self-learning algorithms instead of programming thus making robotic system to be autonomous. The AI techniques also enable IoT robotic cognitive system to integrate with IoT applications to create seamlessly optimized solutions for desired application. Reasoning capabilities from machine learning exploiting cloud resources brings beneficial effects in system efficiency and dependability user safety and adaptive physical and behavioral human-robot interaction. Cyber security is the discipline that benefits readily through AI. To ensure versatile and persistent protection security systems need to be continually conforming to the new changing environment.

Due to their flexibility and adaptiveness AI techniques can enhance overall security execution and give better security from an expanding number of complex threats. Cisco's 2018 annual cyber security report which examined a wide cross-section of trends and patterns in data theft data loss malware and other issues found that 32 percent of security leaders are completely

reliant on AI to safeguard sensitive corporate information. After adopting AI in cyber security it was observed by them that time to detect security issues went from 14 hours in 2016 to 4.6 last year. AI helps by automating complex processes for detecting attacks and reacting to breaches. These applications are becoming more and more sophisticated as AI is deployed for security.

AI is powerful enough to create new generation of defense cyber security products called robo-hunters a threat-seeker which build on predictive behavioral analytics have the ability to monitor network activity behavior and scan an organizations environment for potential threat. They self-train themselves as they scan and takes required remediation action.

AI self-learning ability when coupled with latest technologies like deception technology which proactively detect and trick attackers will take cyber security to new level. AI is expected to play a pivotal role in bringing a dawn of new age in human history i. e. augmented age. As the field of AI is progressing at an accelerating rate it is expected that natural human capabilities would be augmented by computational systems that help him think robotic systems that help him make and a digital nervous system that connects him to the world far beyond your natural senses. AI has already shown its capacity to work alongside humans and in the revolution of new technology domains; improving the accuracy of cancer and disease detection securing and enhancing IoT capabilities. With lots of vital implication of AI and its profound capability AI could be used for good or nefarious purposes so it needs to be regularly checked with more and tougher regulations

involving internal and external accountability transparency professionalism and it should be ensured that benefits of AI technology spread fairly and broadly to the whole world.