Qulix SYSTEMS

ARTIFICIAL INTELLIGENCE: TRENDS AND PREDICTIONS FOR 2030

Based on the Report Artificial Intelligence and Life in 2030 (Stanford University, 2016)[1]

[1] https://ai100.stanford.edu/2016-report

Introduction

> *"The revenue from the artificial intelligence for enterprise applications market in Europe is estimated to be worth around 93 million U.S. dollars in 2016, in 2025 – 7,876 million[2]."*

Intelligent robots and algorithms learn to perform more complex cognitive tasks such as reading, writing, understanding language and contexts.

The advanced development within this area was recently proved by the win of AlphaGo, artificial intelligence software developed by Google DeepMind, against human world champion Lee Sedol.

In fact, the integration possibilities of AI are almost unlimited. AI makes more out of data. Companies can gain information from a huge database evaluated by the AI, learn from this data using the machine-learning, etc.

Automation of complex processes, pattern recognition, machine-learning to generate knowledge, optimization of complex problems are just a few examples of what AI technologies can be used for.

The public opinion about the AI development

However, the rise of AI is currently seen by people as a threat to humanity, as a recent survey of the British Science Association[3] found.

60% of respondents think that the use of AI technologies will lead to fewer jobs in the coming years.

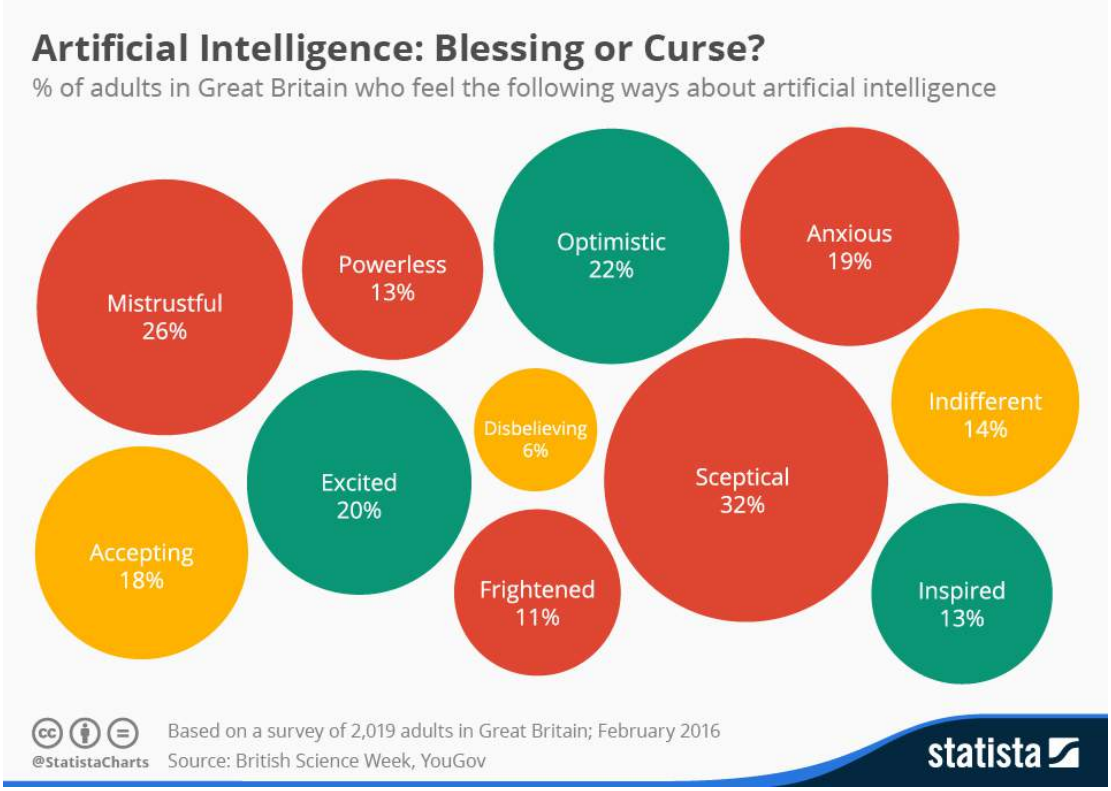
36% of questioned consider AI as a threat to people in a long-term perspective.

In fact, the survey results differ, depending on age and gender of the respondents. Young people aged 18-24 seem to be more excited about the AI technologies. More than 55 percent believe that intelligent assistants can undertake some household duties and services.

Men are more open-minded about the future of AI. 28 percent of them feel optimistic about it, but only 17 percent of women have the same opinion.

[2] https://www.statista.com/statistics/607653/europe-artificial-intelligence-for-enterprise-applications/
[3] http://www.britishscienceassociation.org/news/rise-of-artificial-intelligence-is-a-threat-to-humanity

The opinion of Britons about AI[4]:



Artificial Intelligence: Predictions for 2030

This year Stanford University published a Report *Artificial Intelligence and Life in 2030*. The research includes forecasts and expectations of the experts from AI and further relevant areas about the future in15 years.

The experts focused their special attention on 8 ‚domains' which they consider most important for the AI development:

- Transportation
- Home/Service robotics
- Healthcare
- Education
- Low-resource communities
- Public safety and security
- Employment and workplace
- Entertainment

Transportation

According to the Report, transportation will be one of the fields in which the general public will be asked to trust the reliability and safety of an AI system. Already now the systems like autonomous cars have made significant technical advances. But the experts predict that the typical city in the USA by 2030 will also include flying vehicles and personal robots.

[4] https://www.statista.com/chart/4503/views-on-artificial-intelligence/

A standard vehicle is predicted to have 17 sensors such as gyroscopes, accelerometers, ambient light sensors, and moisture sensors.

> *"In the near future, sensing algorithms will achieve super-human performance for capabilities required for driving. [...] Advances in perception will be followed by algorithmic improvements in higher level reasoning capabilities such as planning. Self-driving cars are expected to be widely adopted by 2020."*

Home/Service robots

Due to advances in mechanical and AI technologies the experts predict use of home robots in a typical North American household by 2025. In the future robots will be responsible for package delivery, office cleaning and security enhancement.

> *"Low cost 3D sensors, driven by gaming platforms, have fueled work on 3D perception algorithms by thousands of researchers worldwide, which will speed the development and adoption of home and service robots."*

Healthcare

In healthcare sector the scientists also predict significant changes. Decisions about medical diagnostics and treatment will be made by algorithms. Doctors will control robots making diagnostics and contribute their own experience. So they won't make humans obsolete.
The main challenge will be to integrate robots into clinical routine the right way. The initial approaches of AI application for healthcare are currently represented by health monitoring mobile apps and surgery robots.

Education

In this area AI will provide an individual approach to learners in the future. In the coming years in a typical U.S. city the teachers are forecasted to use intelligent tutors to assist them. Besides learning based on virtual reality applications is likely to expand. A key challenge will be, however, similar to healthcare sector, to find the right way to integrate human interaction and face-to-face learning with AI technologies.

Low-resource communities

AI could improve living conditions in low-resource communities in the USA as well as in developing countries.

> *"With targeted incentives and funding priorities, AI could help address the needs of low-resource communities, and budding efforts are promising."*

The experts also expect social media influence increase in the future. Social networks might be used to assist in spreading health-related information. But concurrently special attention should be paid to the risk that AI systems can reproduce discriminatory behavior, e.g., by identifying people through illegal racial indicators.

Public safety and security

In public safety and security area humans are expected to trust machines like, for example, surveillance drones, algorithms for financial fraud detection, as well as predictive policing for forecasting probability of criminal offences in a particular area.

Employment and workplace

All the changes mentioned above will have an impact on the way we work. According to the scientists, in the future robots are likely to undertake particular tasks, but won't replace jobs totally. However, some professions will be affected by AI integration, e.g., truck drivers, radiologists or even lawyers.

> *"Because AI systems perform work that previously required human labor, they have the effect of lowering the cost of many goods and services, effectively making everyone richer."*

Entertainment

Taking into account the current trends in the entertainment sector, the growing availability of

cheaper sensors will enable a greater advance in hardware usage in the future of entertainment sector.

> *"...interaction with robots and other entertainment systems will become dialogue-based, perhaps constrained at the start, but progressively more human-like. AI will increasingly enable entertainment that is more interactive, personalized, and engaging."*

Conclusion

The most significant changes will affect transportation, healthcare and employment.

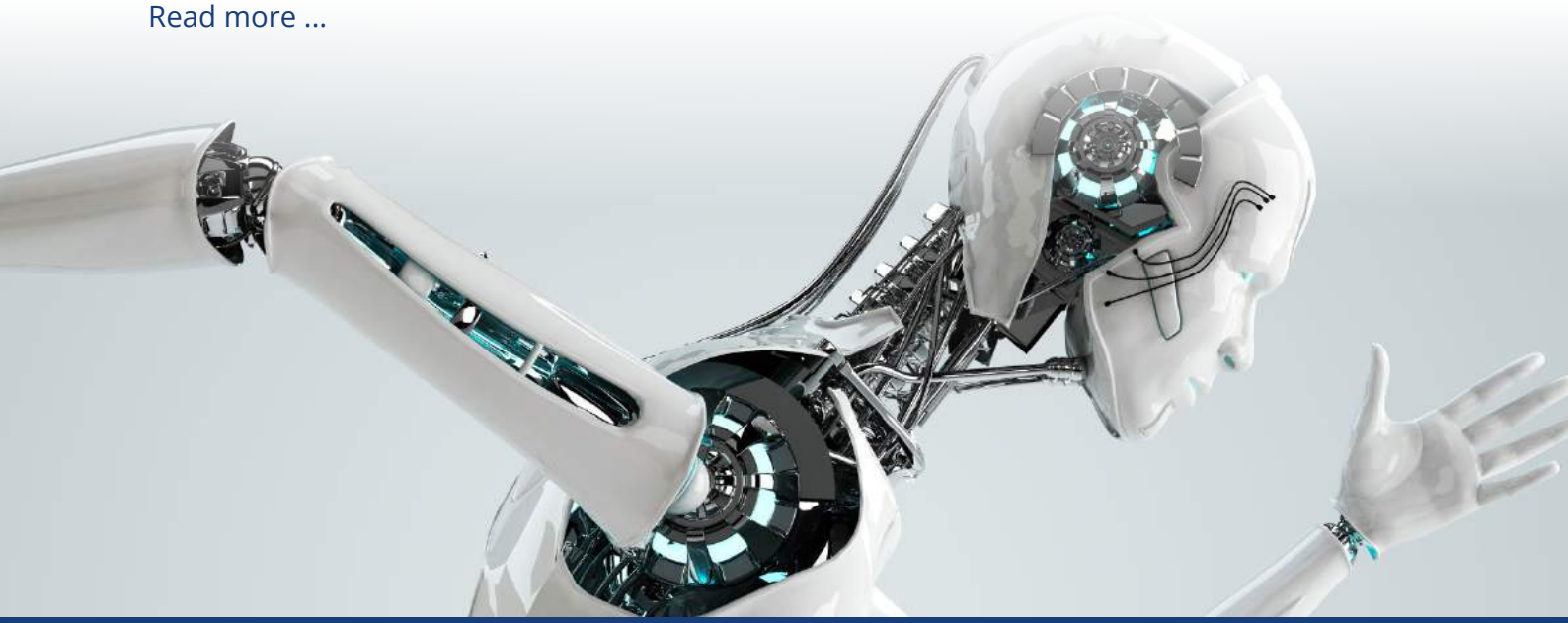
While some people feel optimistic about the AI expansion in the future, the others are currently critical of the fast-developing technology. Such opinion might be caused by the Hollywood movies showing the race of human-like robots. The experts expect general public to get accustomed to the new technology in the coming years.

Companies shouldn't ignore the AI trend. It is necessary to start integrating the technologies now in order to stay competitive in the coming years.

About Qulix

Qulix Systems is a global provider of software design and development, quality assurance and IT consulting services. Since the year of 2000 we aim at delivering high quality software solutions meeting our clients' needs across multiple business domains.

Internet of Things and Artificial Intelligence belong to our core software development areas. Read more ...



Have questions? Feel free to contact us:
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