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Die Rolle der KI in der zukünftigen Technologie

The Role of AI In Future Technology

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ABSTRACT

The role of AI in future technology:
The different aspects of AI is discussed. A near history projection is made by citating an idea from Alan Turing.
Following questions have been trying to answered.
At what extend we are going to be surrounded by AI ? How will impact to transforming our daily life ?
What are the examples of AI usage in todays technology, production, social life and so on ?
What kind of new problems and rules will be emerged by more and more AI is implemented to our daily practices.
The area of AI usage in production in, in medical sector, in human brain and more.
We might have seen new election campaigns only through social media.
When the raw data is going to be a meaningful information ?
Can human brain transferred to AI and controversely, can AI transfer into human brain ?
How deep learned algorithms or machine learned algorithms can imitate the human behaviours?
Can the sensors and actuators set up a social network ?
Will there be a like relation between machine to machine ?
The impact of AI in the area of developing new medicals,
developing remote controlled drones, planes or autonomous drive systems have not been covered in this essay.
In general not very technical details have been argued in this essay such as the algorithms used in AI or usage of neural networks in AI was not part of this essay.
Mostly how the AI will look like in the future technology tried to be discussed.

Introduction: The Role Of AI In Future Technology

Are we going to be connected into real world forever ? That opens the route at least immortality to our brains. Artificial intelligence is much more integrated into our lifes and started to be known by large amount of people than ever before since its development period date back to 1940s.

> Alan Turing was thinking about if his computer can think ? [1]

If we closely looks into the matter, there is a big transformation which wrapsaround us called industry 4.0. AI plays one of the major role in this transformation. Will we be able to produce our car ? Our summer house? Our electric bike ? By using 3D printers. The production is going to be more democratized and distributed by help of smarter connected things as oppose to mass production fordism approach.There is nowadays a mystro which harmonize them mostly runs centrally called AI but started to be closer to the premises with edge solutions to promise faster algorithms.:

> Second question how much we know about the humanbeing ? Probably we know about the phenomenon as much as a baby that can immitate the voices of an adult person. [2]

Once we land back into capabilities of today (April 2020), factories started to become darker and smarter. The machine network could be connected to each other thanks to various technologies IIoT, OPCUA, MQTT and many others, digitial twin of the product and the whole plant now is available in the simulation.

> This simulation not only runs in a desktop but also supported with augmented reality elements. You may interact with the product, intervene the real production and see the results and estimations in real time by navigating the simulation.[3]
>
> The whole product life cycle is managed much more efficiently starting from design phase upto end of its life properly and wisely. This means that you dont need to spent time and money in the real life but rather create your digital product and test it in the digital production and even in digital endcustomers and test environments.[4]

Elaboration

The elements of the machines will be more smarter than ever, so the machines itself are going to be willingness to be connected to each other likewise humankind social connections. The sensors or the actuators are going to exclude the low performed or incompatible elements of the system. They are going to talk to each other not only by standart data but also social responsibility awareness. If one part of the sensor or actuator is going to lack of resources the other individuals in his/her network is going to help him/her to pursue the best perfromance of the system. The maintenance predictions will be made more precisely and prospective troubles will be shooted before they occured. The maintenance person could be a grand mother who is capable to use some some instructions run in a tablet and she can remotely operate the robots in the dark factory.

We are just on the verge of 5G technology. What that means ? It means huge number of times connectivity and much faster. Ubiquitousness of the things will become more spread around. Can you imagine a doctor will perform precisely an operation thousands miles away thanks to low latency of 5G. All the connected things are providing huge number of data and those data has to be turned into a meaningful information. When the AI runs only in the cloud this will not response the realtime production requests or various type of autonom vehicles. Therefore we started to talk about on the premise edge solutions which are more intelligent before. They have to create the meaningful information comes from every single sensor located in production

machineries and they make required corrections in the algorithms and push back them to the distributed controllers. This development of 5G may lead central smart phones runs by help of AI in the data centers therefore we may not need expensive smart phone hardwares.

We may end up that, together with more wearable technologies or holograms the big amount of the tasks of the current smart phone hardware is handed over to the distrubuted central systems so cheap and even temporary hardwares will be enough to perform even more sophisticated tasks than todays devices.

At what extend this development will continue ? The limit is our dreams. To become an expert for a person takes many years. What if, if we can keep this knowledge connected to a central living algorithm and than this can be used by a young person. Anyhow all those developments will turn to that human life will be longer than ever. Thanks to researchers in the area of dna, genom and neural information processings make the humanbeing more knowledgable ever before about human.

Discussion and Conclusion

Those developments are not promising only positive things. Pick a problem from autonomous drive system. Who is going to be blame when an accident costs a persons life ? Or what will be the etichal rules of privacy ? Cyber security and a new law system is going to be expertise to deal with the new emerged problems caused by AI.

All those areas are closely related with the AI and its fundamental blocks. Open source is also one of this area, many codes are now in open to developers and those developers are not needed to explore the same thing again and again similarly as we discussed earlier if we can transfer all the existing knowledge of a particular subject into a freshman.

AI is profoundly interact with product, production, biology, medicines and more and will continue to play the major role also in the future technology. Nowadays the politicians started to use more twitter rather than their national assemblies.

> There is a big data in social media which has the indications about the massive society especially those who are easily change their opinions are the target of the elections campaigns.[5]

AI will be the main drive in all aspects of our lifes. AI algorithms can also predict what is the best choice for a person, so our decisions can also be managed. That brings decisions, life styles, social relations into the table to be queried. What if all those life elements managed by a whole connected information set ?

Sources:

[1] *Turing Alan :* Code Breaker

https://en.wikipedia.org/wiki/History_of_artificial_intelligence

If a machine could carry on a conversation (over a teleprinter) that was indistinguishable from a conversation with a human being, then it was reasonable to say that the machine was "thinking".

[2] *Demir Sinan:* Digital Transformation Manager at Netas.

https://www.linkedin.com/posts/demirsinan_yapayzeka-ai-backpropagation-activity-6659145470557982720-Bls2

Backpropogation Algorithm

[3], [5] *Yildiz Emre:* Ph.D Researcher at Aalborg University

https://www.linkedin.com/posts/emre-yildiz-94386649_end%C3%BCstri-40%C4%B1n-%C3%BCretim-ve-siyasete-etkilerini-activity-6660976861453000704-4fBS

Industry 4.0 has been released

[4] *Dr. Gaus Norbert:* Head of Research in Digitalization and Automation at Siemens.

https://youtu.be/2XAXKNcsb1M

Siemens: AI and Digital Twin for Manufacturing (CxOTalk)