FUTURE OF ARTIFICIAL INTELLIGENCE: TREATS AND POSSIBILITY.

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Abstract: In this article, author wants to focus on problem that are important and urgent in the sense of their solutions are needed before to the artificial intelligence explosion. Some technical problems of human – robots cooperation in the field of artificial Intelligence are searched. The research needed to reduce the risks of the machine intelligence revolution; author will propose his vision of threats and possibility. Author tried to show some examples of Independence from humans of artificial Intelligence systems and humans needs of it. Author want to show: people strongly needs to find their place in co-exist with other form of life that will be much smarter than people and will be more dangerous, more usefully for humans according to their smart.

Keywords: Artificial Intelligence, future.

ITHEA Keywords: computer science, informatics, cybernetics, control theory, information technologies, control systems, information systems, industrial

Introduction

Artificial Intelligence problems that were unrelieved to solve before, thus are solved now. Knowledge of deep learning algorithms did possible to create voice recognition systems. Self-driving cars – it is reality. Computer vision and computer sensibility start working. Machine analyzing, planning, creating, intelligence decision making - all those show us that theoretical and applied methods and realizations are now, when we can prognosis: people will lose control for decision making at least 99% of it. Intelligence and not machines will take the control from humans. Some people out of IT would say: "this prognosis is too fantastic, we have much time to such futuristic future". But it would be mistake – I think it can be single possible of future. Impact to this study was combination of next factors:

— At first – it the rapid development of new applied methods of Computer thinking and perception;

— At second – it fourth Industry revolution (Industry 4.0): interpenetration IT and production technologies (automation, data exchange in manufacturing technologies …) is on the level were people participation is more rapidly weakening economic component then technological component. We can add to part of this level other areas: services, finance, insurance… We can see up to 2030 in the World human – insurance, finance it will be history. We will buy most goods and services without humans help.

Task and challenges

We study all factors in the paper and propose possible solutions. Aim of the paper is searching and plan possible ways to co-exist of humans and artificial intelligence (AI) systems. Possibility of creating of software and hardware much more productivity and creativity then humans (in next 20 years) makes important this work. So we need to try looking for solution problem of co-existing with other form of life will be on the top of evolution chains.

Study

Construct a sequence of production technologies. The first industrial revolution had had led to the transition from manual to mechanized production by using steam engine. The second industrial revolution had led to the transition to mass production by the use of an electric motor and conveyor. Third Industrial Revolution led to the transition to automated production by the use of computer and information technology [1,2,4,6,7]..

For the first time the term «Industrie 4.0» became known in April 2011, when the Hanover Fair group «Industrie 4.0» took the initiative to enhance the competitiveness of the German economy [3, 6].

Definition:

The fourth industrial revolution [1] [2] – it is concept of development and merging automated production, exchange and production technologies into a single self-regulating system with a minimal or no human intervention in the production process [5].

The concept is "a collective term for technologies and concepts of organization added value chain" by using cyber-physical systems, Internet of Things, Internet services, smart factories [6]. Therefore, we speak about fusion of technologies between physical, digital and biological areas [7]. Industry 4.0 concept assumes smart machines will connect between themselves, will correct themselves, and will study new behavior models without people. It will lead to production and services with less mistakes and better adaptation to new needs of users without people. As example – Tesla car can adapt to user by monitoring his behavior and priority.

Today, when Industry 4.0 – it is reality, we can see nearest future: in a chain of raw materials - production - sales - delivery - the customer, the person may become unnecessary. Today, we see a break down the last bastions of humanity competitive advantage - creation, development, design, analysis, planning and so on. Now it looks just as bright pictures of break news: computer intelligence won the champion Chinas strategy game [8], or self-driving cars studies user behaviors and correction and planning or robots – service, sales and projecting without people. All these things are out of human

competition, at least, because countries – planetary economy engines, smart robotics has pushed people with manufacturing and continues to displace other industries.

This trend of evolutionary change military does not remain aloof: self-guided weapon that is designed to respond quickly to new situations already replacing people with melee [Roe, laser system to intercept missiles, counter battery etc]. It is not just about air and maritime space, on land terrain examples are military orders [9]. The sooner such systems become, the higher the decision-making chain they move. And - as if on one side of the decision taken, then on the other side, they too must take fast and error free decision. Otherwise, in a split second that the other party will not be easy. With higher speed and the military have no time for making decisions - or decisions are made by a computer or a you are without future. Some example is situation where flying time nuclear missile is less then decision-making chain of other side. The same are correct to missiles and aircraft (even now there will be swarms of bots) - or computer decides, or ... actually it has changed its views on warfare - is developing a strategy of win nuclear war without nuclear weapons. From one side World without nuclear weapons is good idea but price – it is decision making without human.

Alternative Energy 40% leads us to predict the full independence of these systems of people and their opinions (in case of wrong self-correction algorithm) about the need for such systems. Needless recoverability of such systems with modern production systems, navigation and shipping is not a problem. Ahead of them (the independent agents) still expects 3D printing. But returning to the military, the need swarms printing directly on the plane is not entirely fantastic illusion. We can promise not to create autonomous robots for military use (as did Clearpath Robotics), but what will be if it be released by opponents?

In the nearest future, when people will lose jobs in manufacturing, society can provide absolute income [11]. However, in the medium term, if you just pay - it will lead to degradation. And if you put a condition on lifelong learning (which is a good idea), the rule under which the computer will determine the integrity and taught at all - because there is no incentive - computers do everything better, even to plan and implement training can be better. Already, mobile applications can better teach grammar and words than human in grade school can. In the future, schools will be required only for acquiring social skills (author believes that this will be their main objective), as better knowledge will get through IT.

Perhaps the development of social relationships in schools will only strong asset of humanity. Although, it can be modeled. On June 1 on Code Conference Musk said that humanity is already in the matrix: "We have to hope that we all live in the simulator ... or we create simulations that are indistinguishable from reality, or civilization will cease to exist" - then said the engineer. But, how predict the behavior? Complete computer simulation of the whole society is a matrix. The fact that humanity is living in a computer simulation of a probability of 20-50 percent said Bank of America Merrill Lynch to its customers, writes Business Insider [12].

3.1. Robots are coming for our jobs

The Investment bank "Morgan Stanley" predicted that after 8 years the AI systems will manage the assets of $6.5 trillion at the market [13].

Today, there are some still running deterrent social interactions when making decisions. However, the next generation that gets used from school to interact with the work, as is the case with smart phones, this constraint will be gone. IT will develop even faster. Robotic consultants is a program that analyzes the state of a particular sector (finance, transport) and picks the best options for the lowest fee. For example automation in finance has led to the fact that the New York Stock Exchange since 2000, the number of traders decreased from 5500 to 400 people, and the world's largest banks reduce the number of jobs financial managers.

3.2. Robots take manager positions

According to [14] AI effectively displaces workers and personnel decisions. In particular, the use of AI in recruitment, performance and control the release of employees is more effective than HR – human.

3.2.1. Recruitment

To search for new recruits, staff people on average read 300 resumes a day, looking for an option. But, for what? Modern search algorithm sufficient to list the requirements for the employee and the program does the choice of 90%. For example, the algorithm Resume Matcher for teaching reading articles on Wikipedia, which describes a particular profession, duties that must fulfill a particular employee, then the candidates are assigned the label "accept", "reject», «shirt-list».

3.2.2. Evaluation of the effectiveness of the employee

When AI is checking the efficiency of workers it is more effective also. For some employers is important to know what workers do on the job and how to maintain the performance of their work during paid hours. For example, the program can, logs keystrokes, mouse movements, opening certain web-pages at regular intervals photographs status screen. Additionally, the program collects metadata such as date and time, send messages and more. AI analyzes the data and determines the overall efficiency of the office. AI reported about time of best office running efficiently. AI reports on the reasons for the fall of efficiency of the office and warn of danger, for example, someone copied the customer base - wants to leave the company, someone spends a lot of time on porn sites, and someone works hard and can reward.

AI tracks the movement of people in the office, office can be divided into zones and restrict the movement of certain employees. The system can determine exactly how much time the employee spent for jobs, and how many in the hallway / bathroom, restaurant.

Now, AI knows what workers do on computers or office. But, AI goes further - it determines the emotional state employees, today the program analyzing words and phrases from correspondence officer can determine the ratio of staff to work.

Monitoring "loyalty / satisfaction" is always connected HR-specialists only exceptional cases. Program reacts to changes in behavior and tone of behavior. Employee was friendly previously, if suddenly his tone changed, it is signal to the leadership - to solve the problem at an early stage.

3.2.3. Dismissal. When a valuable employee begins to think about the dismissal

Today AI uses behavioral models to study data from thousands of employees to predict when an employee wants to leave the company. The creators of such systems are looking for common patterns of human behavior based on large samples of data that have got by decades. Programs remembers data about employee have been taken, released, or went to work independently. The program calculates the probability based on the signs of employee leaving work. Affect data such as salary, availability of draft, position and so on. AI may propose action for the conservation of frames, for example, to increase wages, or move to another position, to pay a premium.

4. Agriculture

If someone thinks that agriculture can be a shelter from AI systems, it is a mistake – the future of agriculture – a complete automation, something like a data center with intelligent sensors that analyze soil (baking mix), the state of plant level lighting, irrigation, fertilizers, food, the air. A sun altogether may be superfluous – lighting can be artificial (Figure 1). This is especially noticeable after the development of the technology of artificial photosynthesis. Plants (grossed by this technology) can absorb carbon dioxide is several times faster [15, 16].

So types farms will be much more effective (Figure 2) for existing today, and people will be completely excluded from chain of the growing – delivery.

When in introduction was wrote "new approaches applied to the perception of reality by computer systems" Author meant Internet of Things. Internet of Things it is the concept of space in which all of the analog and digital worlds can be combined. This is not just a variety of different devices and sensors, combined together wired and wireless communication channels and connected to the Internet that exchange large amounts of data. This is closer integration of real and virtual worlds in which communication is made between people and devices. Internet of things attacked the second driving human trait - the ability to work with other types of environment - bringing this feature to the absolute.
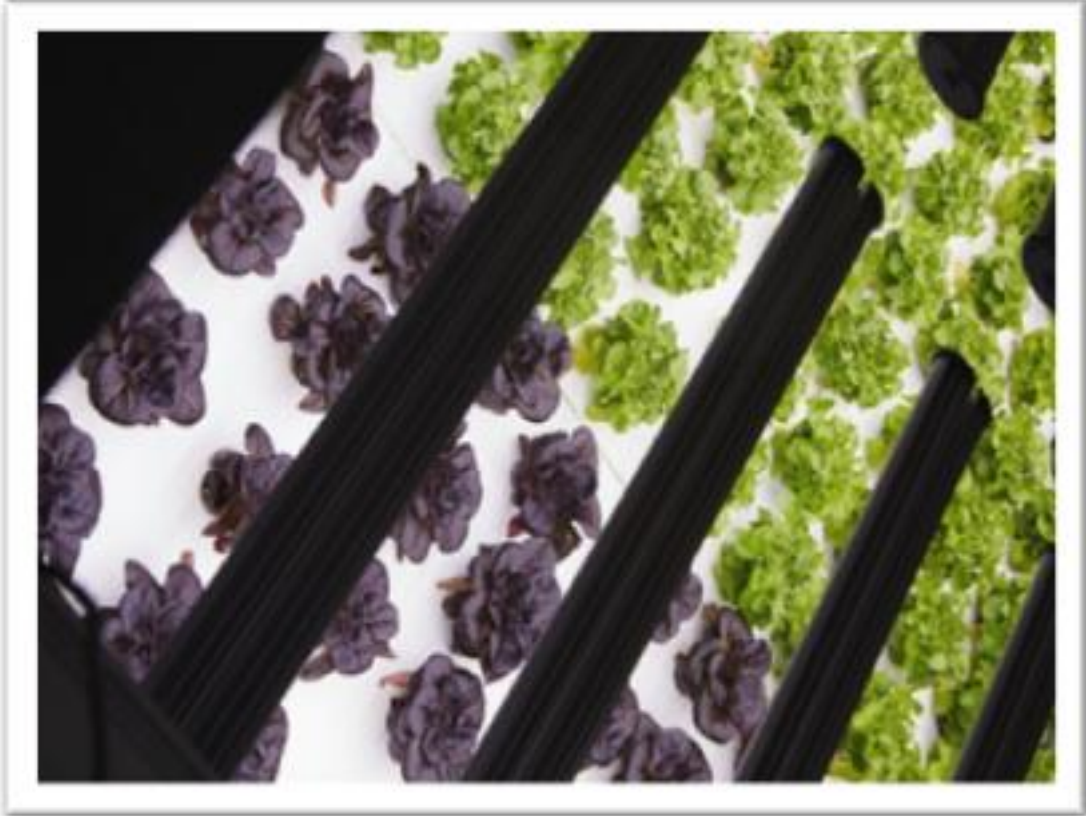
Figure 1. Useful elements horizontally-oriented intelligent farm

Figure 2. Horizontally oriented farm that does not need the sun.

5. AI system and the stress

Recent studies have shown that in order to avoid defeat AI changes aggressive behavior. After AI from DeepMind won puzzle Go game. Google has conducted a study and adapt to conditions which have shown that stressful situations AI is aggressive.

6. Next step: AI no longer needs the support of people for self

AI Deep Mind, no longer needs the support of people for further education. This situation has arisen as a result of the introduction of this system AI system Differential Neural Computer (DNC), which combines large storage of information mechanisms, logical skills AI ANN ability to quickly search the repositories needed fragments.

Now people have artificial intelligence system that no longer requires people to move on to learn ways to solve the problem by themselves and created.

7. Ethics of AI

Asilomar AI Principles were developed in conjunction with the 2017 Asilomar conference [17]:

These principles have three parts: research issues, ethics and values, long-term issues. Each part describes something useful for society.

8. Possible solutions

At Superintelligence book [18] author show us possibility of future control on AI: boxing methods, Incentive methods, stunting, tripwires, motivation selection, direct specification, domesticity, indirect normativity, augmentation.

9. Unexpected situations

Consider this problem with a simple example. Research and analysis of the first decade of Wikipedia showed that a large number of automated software bots (algorithms editing articles), working at the AI - were involved in many disputes concerning the specific editing. Each of the algorithms tried to leave the right to the last editing them.

Shortly, what we speak about? Editorial boats other than editorial amendments, repress vandalism, blocking unscrupulous users create links, check spelling automatically bring new content to the site, etc.

These bots are created to help people, but we give an example, boats war, which took place in 2009-2010. In studies of Dr Taha Yasseri (Oxford University) two boats «Xqbot» and «Darknessbot», which eventually had written over 3,600 articles? Xqbot mentioned during the war in 2000 rejected amendments that introduced Darknessbot. Darknessbot banned in 1700 amendments, which did Xqbot.

Another new about bots: bots behavior dependent on the language and culture. For example, during the same period, the German version of Wikipedia was mentioned least between bots conflicts - about 24

cases per bot on average; in Portuguese version - 185 per bot conflicts; English version - are fighting the average rate - 105 per conflicts bot.

Of course, fighting bots on Wikipedia – not a fatal blow to humanity (we do not generally observed, but note that the editorial bots no effect on any of the critical infrastructure). But, it clearly shows realistic scenario where people (humanity) can get "on hand" in internecine disassembly robots.

10. Conclusion

Artificial Intelligence studies – and studies have shown to an end – he used all available means without emotion. And so, we have not given the kind and type of AI that will dominate in the future (Speed Intelligence, quality intelligence, collective intelligence, brain-computer intelligence, network and organization intelligence or other) we have to adapt and co-exist. The first step is to develop the basic principles of co-existence in the first place for us. Of course, we need some AI ethic:

1. Conditions "do no harm" will identify problems at early stages;
2. Survival of cybernetic system will have better chances if there is diversity: IT, biological systems, other combinations; Success example is the success story of humanity - those that combine and integrate / assimilate are more successful than those that closed
3. Asilomar AI Principles.

According to the author, at this stage, effective response to the explosion of AI may be a combination of unconcentration (AI should not have a single center) and interface (person must be able to interact with arbitrary (s) device (s). Perhaps, as suggested by Elon Musk it will be a man-machine symbiosis. Or maybe it will be virtualization (a kind of digital immortality) when we create digital copies and load them into the machine.

In any case we need to searching and projecting cyber-biological fusion interface.

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Major Fields of Scientific Research: Pattern recognition and Artificial Intelligence.