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Artificial Intelligence and Society: Opportunities, Risks, Challenges
Special Seminar *(Specseminārs)*
Lecturer: Maksims Ivanovs, M.Sc. in Cognitive Science (maksims.ivanovs@edi.lv)

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Overview: Artificial intelligence (AI) is one of the fastest-growing and arguably most exciting fields of Computer Science (CS). Called by Andrew Ng 'the new electricity' due to its transformative power, AI has attracted attention not only of researchers, software developers, and entrepreneurs, but also of the general public, as the ambition of making computers intelligent is truly exciting. The discussions about AI exceed the boundaries of CS by far, engaging ethics, sociology, philosophy, neuroscience, economics, and other branches of knowledge. Here are just some of the questions arising in such discussions:

- Is it possible in principle to create Artificial general intelligence (AGI), i.e AI that can understand any intellectual task that human beings can?
- If that may be the case, what techniques could succeed: the current start-of-the-art machine learning (ML) techniques such as deep learning, reengineering the human brain by drawing on the advances of neuroscience, or some other approaches?
- Should AI be used for military purposes?
- What impact the further development of AI will have on the labor market: will it result in job losses or new job openings? What careers are most and least likely to be affected? Also, will we have to adopt the universal basic income because of AI?
- Will AI lead us to a more democratic and egalitarian society or to more control over individual freedom?

AI technologies are already affecting our lives in various ways and are likely to lead to even more dramatic societal changes - for better or for worse. **Therefore, it is essential for CS students to learn not only some particular ML methods or software frameworks , but also to gain some insight into the big picture of AI landscape and future prospects. The goal of this seminar is to be of some help with that.**

To apply, send an email with your name & student ID number to maksims.ivanovs@edi.lv

Venue: Rainis Boulevard 19 (the main building of the University), room 336.

Day and time: every Thursday, 16:30 - 18:05. **The first meeting is on September 16.**

Working language: English; if no international students are taking the course, the language of instruction can be changed to Latvian.

Prerequisites: interest in the topic and some fluency in English, as most of the materials will be in that language.

Requirements for passing the course:
- attendance: at least 50 percent of classes;
- two presentations (70 percent of the final grade);
- an essay or a programming project (30 percent of the final grade).

Some sources:
1. Bostrom, Nick. *Superintelligence*. Dunod, 2017.

2. Lee, Kai-Fu. *AI superpowers: China, Silicon Valley, and the new world order*. Houghton Mifflin Harcourt, 2018.
3. O'neil, Cathy. *Weapons of math destruction: How big data increases inequality and threatens democracy*. Broadway Books, 2016.
4. Reese, Byron. *The fourth age: Smart robots, conscious computers, and the future of humanity*. Simon and Schuster, 2018.