



III. Summary

The most important decisions that determine how well our society can adapt to the changes brought by AI aren't technological. They are political.

Everything that we have learned about AI suggests that the future is bright. We will get new and better services and increased productivity will lead to positive overall outcomes – but only on the condition that we carefully consider the societal implications and ensure that the power of AI is used for the common good.



- We need to avoid algorithmic bias to be able to reduce discrimination instead of increasing it.
- We also need to learn to be critical about what we see, as seeing is no longer the same as believing – and develop AI methods that help us detect fraud rather than just making it easier to fabricate more real-looking falsehoods.
- We need to set up regulation to guarantee that people have the right to privacy, and that any violations of this right are strictly penalized.

We also need to find new ways to share the benefits to everyone, instead of creating an AI elite, those who can afford the latest AI technology and use it to access unprecedented economic inequality. This requires careful political judgment (note that by political judgment, we mean decisions about policy, which has little to do with who votes for whom in an election or the comings and goings of individual politicians and political parties).



and to the changes brought by AI aren't technological. They are political.

The regulation of the use of AI must follow democratic principles, and everyone must have an equal say about what kind of a society we want to live in in the future. The only way to make this possible is to make knowledge about technology freely available to all. Obviously there will always be experts in any given topic, who know more about it than the rest of us, but we should at least have the possibility to critically evaluate what they are saying.

What you have learned with us supports this goal by providing you the basic background about AI so that we can have a rational discussion about AI and its implications.

Our role as individuals

As you recall, we started this course by motivating the study of AI by discussing prominent AI applications that affect all our lives. We highlighted three examples: self-driving cars, recommendation systems, and image and video processing. During the course, we have also discussed a wide range of other applications that contribute to the current technological transition.



Hidden agenda

We also had a hidden agenda. We wanted to give you an opportunity to experience the thrill of learning, and the joy of heureka moments when something that may have been complicated and mysterious, becomes simple and if not self-evident, at least comprehensible. These are moments when our curiosity is satisfied. But such satisfaction is temporary. Soon after we have found the answer to one question, we will ask the next. What then? And then?

If we have been successful, we have whetted your appetite for learning. We hope you will continue your learning by finding other courses and further information about AI, as well as other topics of your interest. To help you with your exploration, we have collected some pointers to AI material that we have found useful and interesting.

Now you are in a position where you can find out about what is going on in AI, and what is being done to ensure its proper use. You should do so, and whenever you feel like there are risks we should discuss, or opportunities we should go after, don't wait that someone else reacts

Exercise 25: AI in your life

How do you see AI affecting you in the future, both at work and in everyday life?
Include both the positive and possible negative implications.

Your answer:

As with most changes in life, there will be positive and negative impacts on society as artificial intelligence continues to transform the world we live in. How that will balance out is anyone's guess and up for much debate and for many people to contemplate. As an optimist at heart, I believe the changes will mostly be good but could be challenging for some. Here are some of the challenges that might be faced (and we should be thinking about how to address them now) as well as several of the positive impacts artificial intelligence will have on society.

Challenges to be faced

Artificial intelligence will definitely cause our workforce to evolve. The alarmist

UK from 2017-2037, but 7.2 million jobs could be created. This uncertainty and the changes to how some will make a living could be challenging.

The transformative impact of artificial intelligence on our society will have far-reaching economic, legal, political and regulatory implications that we need to be discussing and preparing for. Determining who is at fault if an autonomous vehicle hurts a pedestrian or how to manage a global autonomous arms race are just a couple of examples of the challenges to be faced.

Will machines become super-intelligent and will humans eventually lose control? While there is debate around how likely this scenario will be we do know that there are always unforeseen consequences when new technology is introduced. Those unintended outcomes of artificial intelligence will likely challenge us all.

Another issue is ensuring that AI doesn't become so proficient at doing the job it was designed to do that it crosses over ethical or legal boundaries. While the original intent and goal of the AI is to benefit humanity, if it chooses to go about achieving the desired goal in a destructive (yet efficient way) it would negatively impact society. The AI algorithms must be built to align with the overarching goals of humans.

Artificial intelligence algorithms are powered by data. As more and more data is collected about every single minute of every person's day, our privacy gets compromised. If businesses and governments decide to make decisions based on the intelligence they gather about you like China is doing with its social credit system, it could devolve into social oppression.

Positive Impacts of Artificial Intelligence on Society



tasks, it frees up the human workforce to do work they are better equipped for—tasks that involve creativity and empathy among others. If people are doing work that is more engaging for them, it could increase happiness and job satisfaction.

With better monitoring and diagnostic capabilities, artificial intelligence can dramatically influence healthcare. By improving the operations of healthcare facilities and medical organisations, AI can reduce operating costs and save money. One estimate from McKinsey predicts big data could save medicine and pharma up to \$100B annually. The true impact will be in the care of patients. Potential for personalised treatment plans and drug protocols as well as giving providers better access to information across medical facilities to help inform patient care will be life-changing.

Our society will gain countless hours of productivity with just the introduction of autonomous transportation and AI influencing our traffic congestion issues not to mention the other ways it will improve on-the-job productivity. Freed up from stressful commutes, humans will be able to spend their time in a variety of other ways.

The way we uncover criminal activity and solve crimes will be enhanced with artificial intelligence. Facial recognition technology is becoming just as common as fingerprints. The use of AI in the justice system also presents many opportunities to figure out how to effectively use the technology without crossing an individual's privacy.

Unless you choose to live remotely and never plan to interact with the modern world, your life will be significantly impacted by artificial intelligence. While there will be many learning experiences and challenges to be faced as the technology rolls out



Example answer

We genuinely look forward to what tomorrow has in store for us. At work, new assisting technologies emerge and existing ones mature to the point of being less annoying than useful. We'll be able to complete our work more efficiently when interacting with machines takes less effort, and we can spend more time interacting with our colleagues and our loved ones.

In our everyday life, we are curious to see AI applications in entertainment such as movies and games. The ways in which we (everyone) use social media and access information online need to change, with more respect for privacy and truthfulness. An end needs to be put to the post-truth era, which is in part a consequence of filter bubbles created by AI algorithms. In this respect, we hope that the balance will tip more towards the good uses of AI and away from the bad ones. Personally, we will do our very best to contribute to this process.

Above all, we will be excited to hear back from you and learn about what we can achieve together by investing time and effort in open AI education, learning about AI, and using our improved understanding to do wonderful things.



You may still give peer reviews to help others

[Give peer review](#)

Received peer reviews:

Your answer has received 2 peer reviews. The average grade of received reviews is 5.00.

[Show all received peer reviews](#)

This is not the end. This is the beginning.

That's it for now. We thank you for joining us. This has been a great adventure for us, and we really hope that you enjoyed it too. We are not yet finished with the course, and I believe we will never be. We will keep doing our best updating and improving it, and making it the best AI MOOC in the world.

Like the course isn't finished, you shouldn't think that your exploration of AI is finished either. The progress is quite rapid and it may seem too much to keep track of, but the comforting news is that the basic principles have stayed more or less the same decade after decade. As long as you know the basics about problem-solving strategies, handling uncertainty, and learning from data, you should be able to easily put new things into perspective. This is why you had to draw



elements of AI, is much longer lasting knowledge than learning the technical details of a particular AI solution.

Below we give a few pointers that we have found useful. Keep learning, stay curious.

"The future has not been written. There is no fate but what we make for ourselves." (John Connor)

- Our forthcoming AI programming MOOC (coming 2020)
- Check out other University of Helsinki's open online courses at <https://mooc.fi/en>.
- [The University of Helsinki will open up all its 1st year computer science studies to all](#)
- You are welcome to apply to [the University of Helsinki](#) too!
- If you want help finishing an AI project for your company, the [Reaktor AI team](#) is happy to help!
- Recommended programs for continued education: ['AI Diploma' by HY+/Aalto PRO/FCAI](#), and ['AI:n perusteet' by Aalto Executive Education \(in Finnish\)](#).
- Our advisor, Risto Siilasmaa's ["What is Machine Learning" video](#) (1h 18min)
- [A friendly introduction to machine learning](#) (Luis Serrano/Udacity) (30min)



- Machine Learning - [Learn AI with an AI \(Korbit\)](#).

After completing Chapter 6 you should be able to:

- Understand the difficulty in predicting the future and be able to better evaluate the claims made about AI
-
- Identify some of the major societal implications of AI including algorithmic bias, AI-generated content, privacy, and work
-

Please join the Elements of AI community at [Spectrum](#) to discuss and ask questions about this chapter.

You reached the end of the course!

After you have completed all the exercises and peer reviews, your answers will be reviewed by our staff.

Correct answers

 **97%**

Exercises completed

 **25 / 25**

[Course overview](#)

[About](#)

[FAQ](#)

[Privacy Policy](#)



HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI

Reaktor