INFT3800 - S1/2021
Workshop/Tutorial – Week 4
Ethics in AI

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In this workshop, you will look into different example of ethics cases in AI. Peer with your friends to discuss the following issues:

Sources:

- Watch the following videos to discuss question 1:
  - https://www.youtube.com/watch?v=e_DsE9f5gyk
  - https://www.youtube.com/watch?v=GPtXXGD5GfA
- Watch the following video to discuss question 2:
  - https://www.youtube.com/watch?v=0IGH2Kq61uw
- Read the following case to discuss question 3:
  - https://onlineethics.org/cases/resources-engineering-and-science-ethics/algorithm-discriminates

1. While seamlessly autonomous weapons systems can be a source of alarm, a key challenge might well be their possible failure. Some claim that autonomous weapons can never be fully liable and dependable, and that a level of doubt will always remain. For this task, investigate the above subject by answering the following questions:
   a. What types of autonomous weapons might be developed within 10 years from now?
   b. What are the possible deployments of autonomous weapons?
   c. How likely is the development of relatively cheap autonomous weapons that are approachable and destructive in the hands of civilians?
   d. What sorts of regulatory actions might be required to head off this kind of possibility, and when would such actions be suitable?

2. The more powerful a technology becomes, the more it can be used for nefarious reasons as well as good. This applies not only to robots produced to replace human soldiers or autonomous weapons, but to AI systems that can cause damage if used maliciously. Because these fights won't be found on the battleground only, cybersecurity will become even more important. After all, we are dealing with a system that is faster and more capable than us. While considering this issues, discuss the following questions:
   a. Is it possible that AI systems might prove valuable in refining defences against hacking while at the same time being helpful for carrying out hacking?
   b. What are the dangers of AI-powered cyberattacks?
   c. What ethical issues arise from AI-powered cybersecurity?
   d. What are the ethics of counter-attacks?

3. Discuss and answer the following questions on ethics and professionalism based on the case you have read from the link given above:
   a. As the software developer, what are Sandra's ethical responsibilities to those who are applying to the job?
   b. What are her professional and legal responsibilities as an employee of Emporia?

c. What would be a more appropriate metric to use in the software to recommend candidates?
d. Does the solution to Emporia's attrition problem necessarily need to be a technical one? What other forms of expertise can the company bring in to analyse why sales employees are leaving their jobs?

4. Fill in the following table with what you have learned in class and give each industrial examples:

Domain	Description	Industrial example
NLP		
Speech Recognition		
Machine Learning		
Deep Learning		
Robotics		
Expert System (ES)		

Sources:

- Habash, R. (2019). *Professional Practice in Engineering and Computing: Preparing for Future Careers*. CRC Press.
- https://onlineethics.org/