**Lesson 06 Discussion**

The application of machine learning can have significant ethical problems. For some background on best practice look at [ACM Code of Ethics (Links to an external site.)](https://www.acm.org/code-of-ethics).

There have been many articles in the press in recent years discussing concerns about ethical problems with machine learning. Perform a search and find an article on this subject that interests you. Discuss the ethical issue described in the article. Include a description of what steps might be taken to address this ethical problem? Or, perhaps there is no way to medicate the problem? In either case, explain your reasoning.

 To receive credit, post you thought and then comment on at least one other post.

The article that I reviewed for this assignment was: “Great promise but potential for peril” on The Harvard Gazette by Christina Pazzanese, 2016 (<https://news.harvard.edu/gazette/story/2020/10/ethical-concerns-mount-as-ai-takes-bigger-decision-making-role/>)

There are 3 main ethical concerns that this article describes: privacy and surveillance, bias and discrimination, and the role of human judgment.

The first and second concern are by now familiar for the general public as we have seen the clear negative examples of AI/Machine Learning on these fields.

Privacy and surveillance has been at the center of this conversation almost since the beginning, as the integration of the Internet of Things and AI becomes stronger and the harvesting of personal data is turn into clear actionable decisions. For the most part this actionable decisions are harmless as they are usually related to recommendation either in the form of a physical product or an intellectual one (as a movie or article), but with more and more data and better algorithms it is also clear that regulations need to be specified to allow this integration of the IoT and AI to happen in a “healthy” way.

The second ethical concern mentioned here is the bias and discrimination issue. This by now is a pretty familiar topic, and for the most part companies are aware of this issue and working on solutions from the inside out. One of the main issues with this problem is that AI/ML not only replicates human biases, but also provides a way to contextualized them in a scientific way and as such has the potential of make it seem that the predictions/judgments of the model have an objective status and therefore are acceptable.

The last of the 3 ethical concerns discussed in the article is the role of human judgment. This is related to the question: could smart machines outthink us or are there elements of human judgment indispensable in deciding the most important things in life? Unfortunately for this last part the scientific community has not reached a consensus, an as we keep pushing the boundary of AI we do not only learn about the new AI capabilities but also explore the similarities to our human brain and what we call conscience.

\*\*\*\*\*\*\*\*\*\*\*\*\*

The main answer provided by the author is education and the access to it.

*As for the first and second concern,*

*“AI not only replicates human biases, it confers on these biases a kind of scientific credibility. It makes it seem that these predictions and judgments have an objective status,”*

*Michael Sandel, political philosopher and Anne T. and Robert M. Bass Professor of Government*

*“The regulatory bodies are not equipped with the expertise in artificial intelligence to engage in [oversight] without some real focus and investment,” said Fuller, noting the rapid rate of technological change means even the most informed legislators can’t keep pace. Requiring every new product using AI to be prescreened for potential social harms is not only impractical, but would create a huge drag on innovation.*

*“I wouldn’t have a central AI group that has a division that does cars, I would have the car people have a division of people who are really good at AI,” said Furman, a former top economic adviser to President Barack Obama.*

*“Companies have to think seriously about the ethical dimensions of what they’re doing and we, as democratic citizens, have to educate ourselves about tech and its social and ethical implications — not only to decide what the regulations should be, but also to decide what role we want big tech and social media to play in our lives,” said Sandel.*

*“We have to enable all students to learn enough about tech and about the ethical implications of new technologies so that when they are running companies or when they are acting as democratic citizens, they will be able to ensure that technology serves human purposes rather than undermines a decent civic life.”*