

Exercise 1 – Hi! Paris Summer School

- 1. Read the five extracts selected below. Considering our class discussion, indicate for each case whether 1) it falls under the definition of AI established in the AI Act and, if so, 2) under what level of risk would this AI be classified.**

A) Case 1 – Hiring Algorithm

An algorithm that was being tested as a recruitment tool by online giant Amazon was sexist and had to be scrapped, according to a Reuters report.

The artificial intelligence system was trained on data submitted by applicants over a 10-year period, much of which came from men, it claimed. Reuters was told by members of the team working on it that the system effectively taught itself that male candidates were preferable. Amazon has not responded to the claims. Reuters spoke to five members of the team who developed the machine learning tool in 2014, none of whom wanted to be publicly named. They told Reuters that the system was intended to review job applications and give candidates a score ranging from one to five stars. "They literally wanted it to be an engine where I'm going to give you 100 resumes, it will spit out the top five, and we'll hire those," said one of the engineers who spoke to Reuters.

By 2015, it was clear that the system was not rating candidates in a gender-neutral way because it was built on data accumulated from CVs submitted to the firm mostly from males, Reuters claimed. The system started to penalise CVs which included the word "women". The program was edited to make it neutral to the term but it became clear that the system could not be relied upon, Reuters was told. The project was abandoned, although Reuters said that it was used for a period by recruiters who looked at the recommendations generated by the tool but never relied solely on it.

Source: <https://www.bbc.com/news/technology-45809919>

B) Case 2 - The COMPAS Software

Across the nation, judges, probation and parole officers are increasingly using algorithms to assess a criminal defendant's likelihood of becoming a recidivist – a term used to describe criminals who re-offend. There are dozens of these risk assessment algorithms in use. Many states have built their own assessments, and several academics have written tools. There are also two leading nationwide tools offered by commercial vendors.

We set out to assess one of the commercial tools made by Northpointe, Inc. to discover the underlying accuracy of their recidivism algorithm and to test whether the algorithm was biased against certain groups.

Our analysis of Northpointe's tool, called COMPAS (which stands for Correctional Offender Management Profiling for Alternative Sanctions), found that black defendants

were far more likely than white defendants to be incorrectly judged to be at a higher risk of recidivism, while white defendants were more likely than black defendants to be incorrectly flagged as low risk.

(Source: <https://www.propublica.org/article/how-we-analyzed-the-compas-recidivism-algorithm>)

C) Case 3 – Recommender algorithms

The father of 14-year-old Molly Russell has called for urgent changes to make children safer online after an inquest found social media content contributed “more than minimally” to her death.

Coroner Andrew Walker concluded Molly, from Harrow, died from an act of self-harm while suffering depression and the negative effects of online content. He said the images of self-harm and suicide she viewed “shouldn’t have been available for a child to see”.

(...)

He said that Instagram and Pinterest used algorithms that resulted in there being “binge periods” of material, some of which was selected and provided for Molly without her having requested it.

“These binge periods are likely to have had a negative effect on Molly. Some of this content romanticized acts of self-harm by young people on themselves. Other content sought to isolate and discourage discussion with those who may have been able to help.

“It is likely that the above material viewed by Molly, already suffering with a depressive illness and vulnerable due to her age, affected her mental health in a negative way and contributed to her death in a more than minimal way.”

(<https://www.bbc.com/news/uk-england-london-63073489>)

D) Case 4 – Social Benefits Algorithm

Dutch scandal serves as a warning for Europe over risks of using algorithms

Chermaine Leysner’s life changed in 2012, when she received a letter from the Dutch tax authority demanding she pay back her child care allowance going back to 2008. Leysner, then a student studying social work, had three children under the age of 6. The tax bill was over €100,000.

“I thought, ‘Don’t worry, this is a big mistake.’ But it wasn’t a mistake. It was the start of something big,” she said.

(...)

In 2019 it was revealed that the Dutch tax authorities had used a self-learning algorithm to create risk profiles in an effort to spot child care benefits fraud.

Authorities penalized families over a mere suspicion of fraud based on the system's risk indicators. Tens of thousands of families — often with lower incomes or belonging to ethnic minorities — were pushed into poverty because of exorbitant debts to the tax agency. Some victims committed suicide. More than a [thousand children](#) were taken into foster care.

The Dutch tax authorities now face a new €3.7 million fine from the country's privacy regulator. [In a statement released April 12](#), the agency outlined several violations of the EU's data protection rulebook, [the General Data Protection Regulation](#), including not having a legal basis to process people's data and hanging on to the information for too long.

E) Case 5 – PacMan

If you've ever played the classic game Pacman, then you've experienced one of the most famous examples of early AI. As Pacman tries to collect all the dots on the screen, he is ruthlessly pursued by four different colored ghosts.

But they don't just follow him; when you're playing they seem to try and ambush the player.

How did they accomplish this?

The ghosts are programmed to know Pacman's location, but each one is set to act a little differently in response to it.

One of the ghosts is set to wander, one is set to aggressively follow Pacman, one is set to go in the direction where Pacman is going, one is set to move randomly unless another ghost is close to catching Pacman, and the final ghost is set to follow Pacman when he's far away, but go to a specific location on the map when he's close.

These four behaviors make these ghosts, even in a game from 1980, appear to have a will of their own. They feel alive. And that is the purpose of AI in video games.

[\(https://www.gamedesigning.org/gaming/ai-in-gaming/\)](https://www.gamedesigning.org/gaming/ai-in-gaming/)