

MACHINE LEARNING (ML)

Part 2

JOBS – WILL THEY ALL GO TO SOFTWARE - ML ?

- ▶ Knowledge Jobs (“White Collar”)

- ▶ Lawyer

- ▶ Judge

- ▶ GP

- ▶ All jobs that involve research and searching a lot of data, will have AI assistants or they may be completely replaced by AI

- ▶ These jobs are most in danger to be replaced or reduced (with AI assistants)

- ▶ Manual Jobs (“Blue Collar”)

- ▶ Driving jobs (Autonomous vehicles)

- ▶ Pilots of ships/planes (Autonomous ships and planes)

- ▶ Soldiers (Automated attack drones and other machines)

HOW DOES ML HELP EXISTING JOBS?

- ▶ Medical profession
 - ▶ Police
 - ▶ Retail - products
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MEDICINE

- ▶ DeepMind – creators of AlphaGo
(<https://www.youtube.com/watch?v=TnUYcTuZJpM>)
 - ▶ In partnership with Moorfields Eye Hospital – treating eye disease by examining 3D scans of the eye (<https://deepmind.com/blog/moorfields-major-milestone/>)
- ▶ Babylon Health is an online and mobile app that allows you to speak to a doctor but can also diagnose and monitor some symptoms
(<https://www.babylonhealth.com/>)

POLICE

- ▶ US Police – large face scanning database – 117 Million adults – mostly innocent
 - ▶ Police face recognition will disproportionately affect African Americans. Many police departments do not realize that.
 - ▶ Face recognition may be least accurate for those it is most likely to affect: African Americans.
 - ▶ Facial recognition programmes run by all except 2 states, were not made public and all are unregulated – this means that there is no way to make sure that they are accurately targeting criminals.
 - ▶ *source - <https://www.perpetuallineup.org/>
- ▶ As we've seen in previous videos, facial recognition can have a strong bias

RETAIL PRODUCTS

- ▶ Augmented Reality mirror - <http://modiface.com/>
 - ▶ Joy Buolamwini – video about a smart mirror not recognising her face as a face (https://www.ted.com/talks/joy_buolamwini_how_i_m_fighting_bias_in_algorithms)
- ▶ Recommendations online – created by ML algorithms
 - ▶ Amazon - “People who bought this item also bought this” or “You may also like ...”
 - ▶ Netflix – “You may also like ... ”

HOW CAN YOU USE ML TOOLS ?

- ▶ Most of the ML tools and code in the world at the moment is available free online at github.com
- ▶ A lot of the code is in Python – but also in many more languages
 - ▶ Example <https://github.com/M-J-Murray/MAMEToolkit/blob/master/README.md> - toolkit to train software to play any arcade game
- ▶ Online tools (Microsoft Azure)
 - ▶ Easy to use toolkit to train an ML