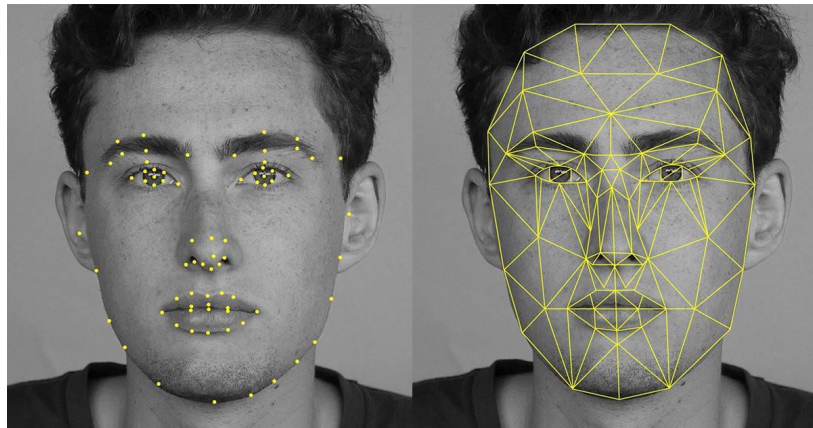# AI-Mediated
Facial Keypoint Detection

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1st Sprint Review

Research Question

How can artificial intelligence be applied to facilitate model-training on large datasets of face images?

- Topic's relationship to AI
- Potential other applications for keypoint detection

Beneficiaries

- Digital artists
- Law enforcement
- Government
- Private security
- Biometrics
- Psychology (emotion detection, maybe a stretch)
- Ourselves
- The class!

Bias

- Facial recognition software has drawn criticism for many valid reasons, but notably due to instances of programmed racial bias
    - For example, some applications have been shown to be much more likely to misidentify a black person as a criminal than a white person
    - *Coded Bias* (2020) on Netflix
    - Where is this bias typically implemented, and how can we best avoid it?
        - Datasets
        - Algorithms

Concerns

- Lack of experience with R
- Acquiring image datasets without biases
- Detecting facial keypoints accurately for all races
- Inherent ethical concerns with facial recognition
- Potential UI/UX implementation

FACE DETECTED
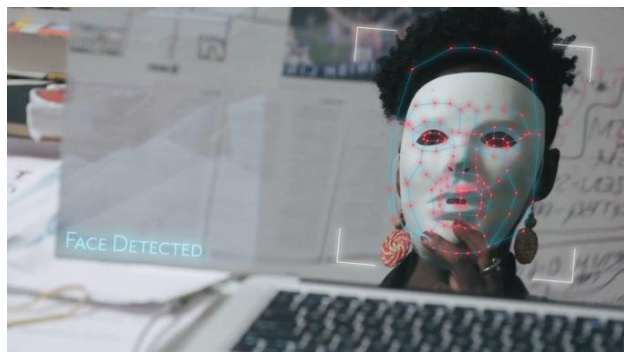
DANGERS OF FACIAL RECOGNITION

TECHNICAL INNACURACIES

Numerous studies have shown that facial recognition technology is still vulnerable. It still has a long way to go before it can become completely reliable.

LACK OF USER CONSENT

CCTVs installed in public places don't seek permission while collecting citizens' facial data.

IDENTITY FRAUD

Fooling a facial recognition system has become difficult, but it's still not impossible.

UNCLEAR REGULATORY FRAMEWORK

Most countries have no specific legislation or rules that regulate the use of facial recognition technology. This legal limbo opens the door to abuse the technology.

UNETHICAL USE

Collecting information without the user even being aware poses huge risks regarding the unethical use of the technology.

DATA THEFT

Database hacking can compromise data of thousands, if not millions of people.

Next sprint review:

- Methodology
- Analysis/Validation of methodology
- Potential prototype

Questions?