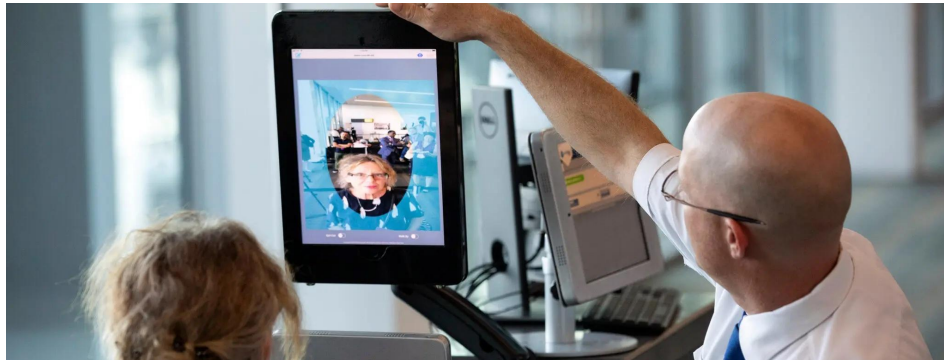


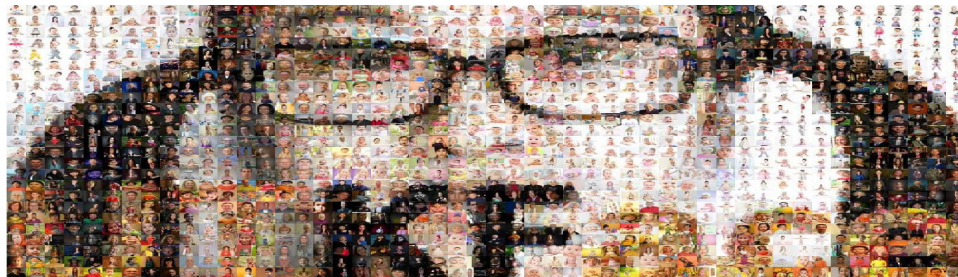
# Unbiased Facial Recognition Technology

A UVA Data Science Case Study by Lilleth Snaveley, 2022



Facial Recognition Airport Technology

**Prompt:** In a 2018 program called Simplified Arrival, The U.S. Customs and Border Protection Agency (C.B.P.) began developing facial recognition technology to be used in airports. The TSA has now implemented this technology in 16 domestic airports, although passengers do have the option to opt out of this screening process as of right now. While the TSA claims this technology is a security enhancement, research has shown that facial recognition technology can be less accurate at identifying people of color. In fact [A Study by the National Institute of Standards and Technology published in 2019](#) found that facial recognition technology misidentified Asian and African American faces up to 100 times more than Caucasian Faces. In response to critics and skeptics, the TSA has hired you to eliminate all racial bias from their current technology. You will be provided with one of their current models that classifies images as either male or female. It is up to you to select the best set of training images in order to eliminate racial bias from the current classifier. Thousands of images from the [UTKFace Dataset](#) will be provided to you. You will select how many images from each racial group – white, black, asian, other – our training set will consist of.



UTKFace Dataset

**Deliverable:** Report back with the exact combination of images from the four racial groups – white, black, asian, other – that resulted in the most accurate classifier. Also explain why you think this combination outperformed others.