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COSI 159A - Computer Vision

Github Repo: [https://github.com/NathanCai2000/COSI159\\_NathanCai\\_PA4](https://github.com/NathanCai2000/COSI159_NathanCai_PA4)

Task 1:

- 1) Several commercial face recognition systems and fair recognition datasets are biased toward Caucasian and male faces, and other races are significantly underrepresented. The resulting accuracy of these models in non-Caucasian or non-male faces all perform worse comparatively.
- 2) The metrics used are:
  - a) The ratio of different races in datasets
  - b) The density of different Skin colors per race used the ITA
  - c) Accuracy of models on white-only tests
  - d) Accuracy of models on non-white-only tests
  - e) Pairwise L1 distance on face embedding
  - f) Accuracy of models based on ITA regions
  - g) Accuracy of models based on gender, white and non-white separately
  - h) Accuracy of commercial models trained using the FairFace dataset
  - i) Rate of face detection of commercial models trained using the FairFace dataset
- 3) It measures the bias of different models by comparing the accuracy of the same model trained on FairFace and the other datasets. They then broke this down by comparing the accuracies of these models for whites only, non-whites only, by gender for each, and by age for each.