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Math 520

Eigenfaces: Linear Algebra Applied to Facial Detection

Overview of Facial Detection

Model Example of Application

-Find a dataset of faces and preprocess the data

-I used scikit learn dataset(<http://scikit-learn.org/stable/datasets/index.html)> because I had familiarity using their datasets in the past and know that they would be properly preprocessed.

-Preprocess: ensure that all the images are similar in format

-Convert the data into a matrix format

-Split into a training set and a test set

-Compute PCA

Why is this important?/How will this application make the world a better/worse place?

* Security/Surveillance functions
* Potential pitfalls
  + Problems with initial dataset – if the faces are primarily of certain ethnic groups or genders, the technology might be less effective for people falling outside of those groups
    - Apple facial recognition issues

Works Cited