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We read some research papers about the technology behind Fischer faces and realized how it might turn out better results when it comes to differences in lighting and image perspective angles. A prominent paper that we referred to was the work by Belhemeur, Hespanha, and Kriegman on “Recognition Using Class Specific Linear Projection.”

Can there be a technology that can make the component work of electrical engineers that are color blind easier? We aspire to make a program that can be an aid to such engineers so that they can easily identify simple components like color-coded resistors by using a Fischer faces recognition algorithm with a set of training images that are commonly used resistors in education and industry.

The technology could be harmful to the learning process of non-color blind aspiring electrical engineers because they should know how to use the resistor band chart in order to determine the resistance of resistors. The question about ethics is that whether this program could hinder the learning process. It might harm the learning environment.

For the application of Fischer faces, we majorly use the techniques of scatter matrices, eigenvectors, normalizations, and Fischer face projections. Our analysis will be the application of our model to a set of test images. We train our model using test images of the commonly used resistors. We expect the result to tell us the number of eigenvectors that give us the highest accuracy %.