

1172-15-201 **James Slowik*** (slowikj@wit.edu). *Improving a Principal Component Analysis Technique for Image Classification.*

In 1991, Turk and Pentland published a technique for facial recognition by using the principal components of a matrix of a variety of face images. They referred to these vectors as “Eigenfaces,” and represented new images as linear combinations of these Eigenfaces, in order to classify them. We repeat this method while improving it by adding techniques to the classification step of the coefficients in the linear combinations, such as k-nearest neighbors (kNN) and support vector machines (SVM). (Received August 28, 2021)