Assignment 4 utilizes SVM to make predictions on MNIST data. I utilized the sklearn library to use SVM, model\_selection, and preprocessing. I imported preprocessing as StandardScalar.

‘scaler = StandardScaler()’ just initializes the StandardScaler class from the ‘skelearn.preprocessing’ module.

‘scaler.fit\_ transform(X)’ just calculates the statistics necessary to transform X to be processed.

After preparing the data, I created an array storing the names of each type of SVM model that will be used and then created a set of results to store the results. I then created a for loop to loop through each type of SVM kernel. Within the loop I used sklearn.svm to choose the kernel, performed 5-fold cross validation by passing the type of kernel, the transformed X, y outputs and the number of folds, in this case 5-fold cross validation. Then I stored the results into the results set.

After performing 5-Fold cross validation, I calculated the sum and average then outputted all the information.

A screen shot of a computer

Description automatically generated