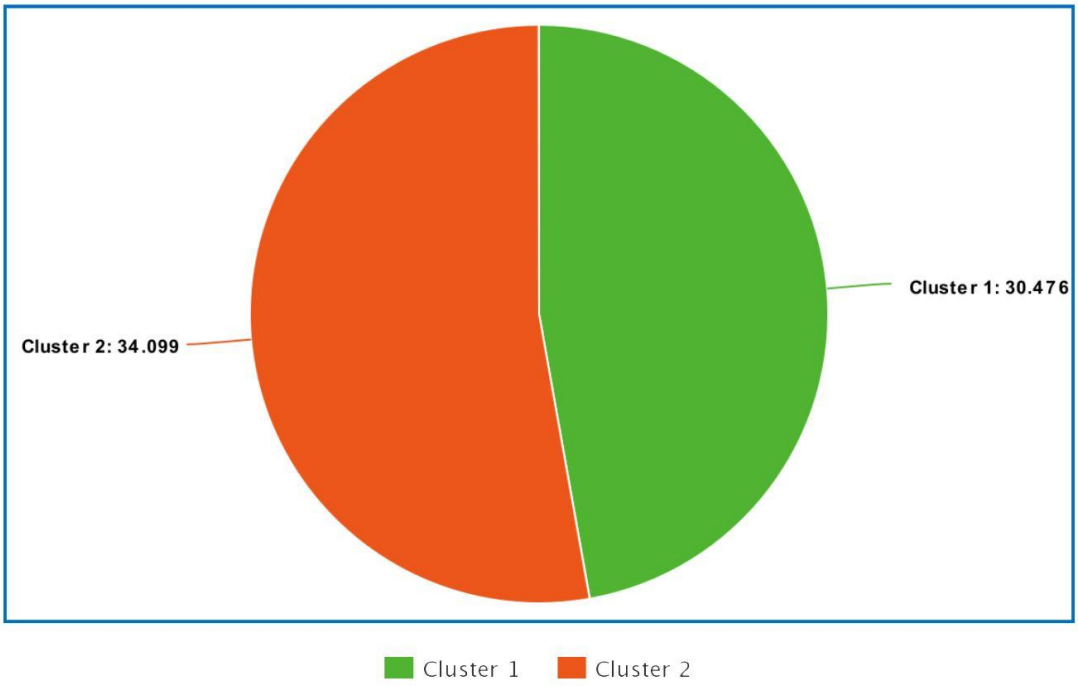
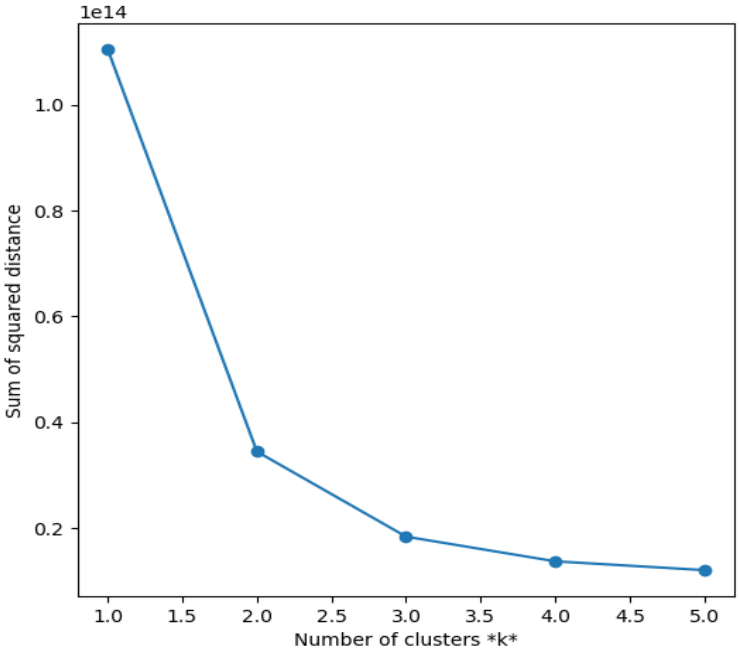
Pie Chart for Distribution



Elbow Method Result's



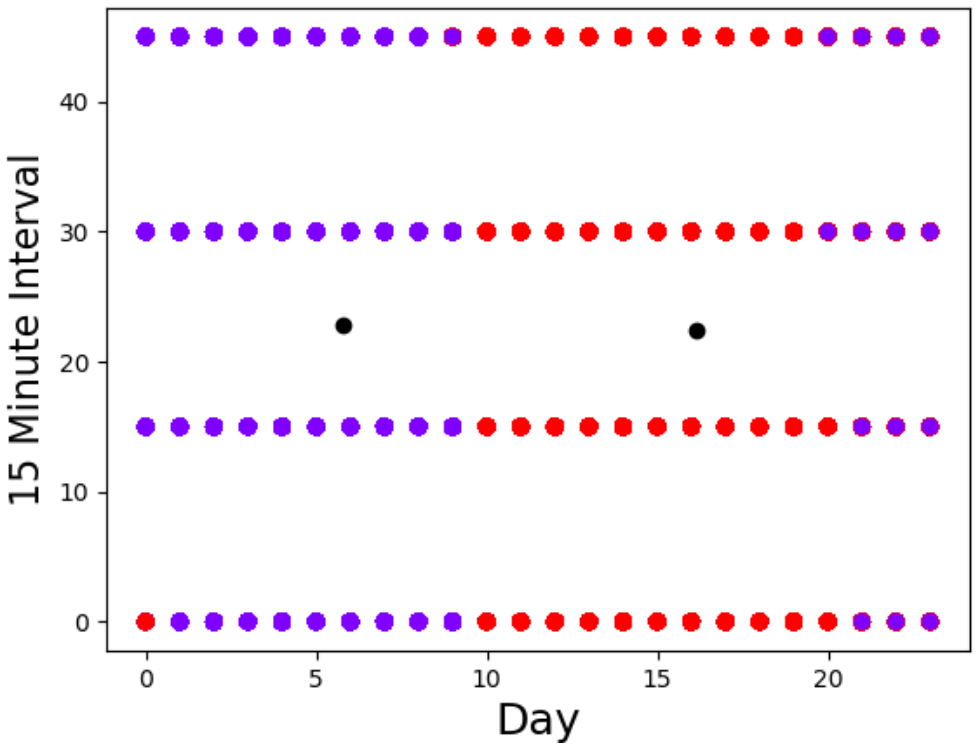
Silhoutte-Score and SSE Calculation Results

Silhouette Score

- For 2 , 0.616126
- For 3, 0.507959
- For 4, 0.47467

- Error Sum of Squares (SSE) = 65981553677.2014

Our K-Means Algorithm Result Plot



Since our data is time-series data, we initially adapted our data to the k-means algorithm. We divided the time into year, month, day, hour, minute, and we put them in the k-means algorithm along with the data of the electricity usage at 100 points. One of the most important features of the algorithm to choose the 'k' coefficient in a smart way. That's why we applied the elbow method first. Elbow method for the k parameter 2 and 3 selection would be smart, but the most appropriate 2, he said. We also calculated a silhoutte score calculation and the best result would be 'k' parameter 2. We ran our algorithm and plotted the results in a graph. Since the number of columns entered into the algorithm was 105, we could see the result of the algorithm in 105 dimensions. We have just reviewed the day and minute which is the size. Here the cluster centers are two black points. The red dots represent a cluster, while the purple dots represent the other cluster. We tried the K-Means algorithm for different 'k' values and made the score calculations.