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Neural Network project 2

ECE 62900- Neural Networks

Project 3

In figure 1 features our datapoints generated from 5 categories using normal distribution. These datapoints will be clustered around their respective centroids using K-cluster method.

Chart, scatter chart

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Fig 1: Datapoints generated by normal distribution

Below is the clustering of the datapoints above in order of their K-value.

Chart, scatter chart

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Fig.2: Datapoints clustered (k=2) Fig.3: Datapoints clustered (k=3)

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Fig.4: Datapoints clustered (k=4) Fig.5: Datapoints clustered (k=5)

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Fig.6: Datapoints clustered (k=6) Fig.7: Datapoints clustered (k=7)

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Fig.8: Datapoints clustered (k=8) Fig.9: Datapoints clustered (k=9)

Chart, scatter chart

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Fig.10: Datapoints clustered (k=10)

By analyzing figure 2 through figure10 one can see the evolution of the clustering. The K-cluster method groups datapoints according to the closest centroid near them. All datapoints, depending on the K value (number of clusters) , will have the same color if they are closest to a specific centroid. In figure 10 are 10 clusters with their specifc colors, every datpoint in each cluster is closest to the centroid in the middle of trhe cluster.