

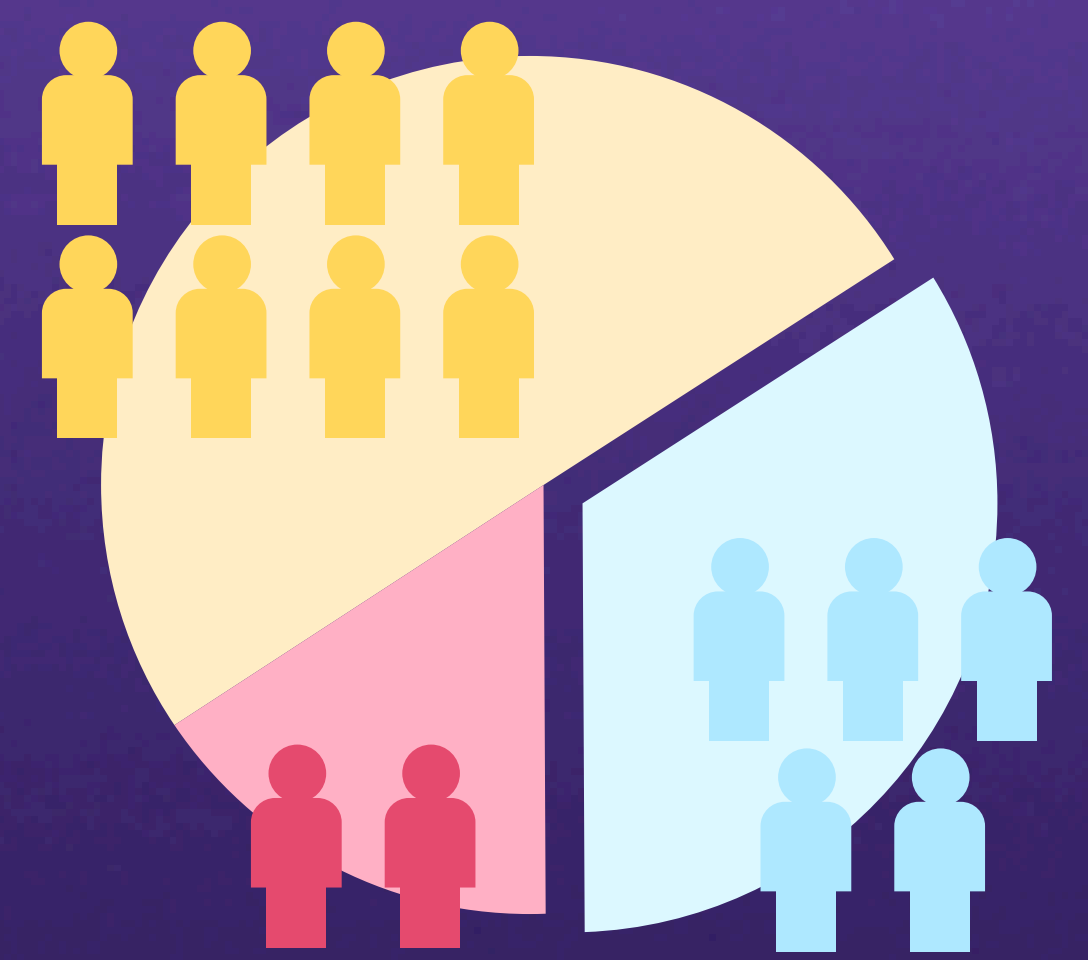


Customer Segmentation & Data Analysis using Social Media

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Abstract

Our project is dedicated to simplifying the use of social media for businesses by facilitating learning and customer organization. Through advanced customer segmentation and data analysis techniques, including machine learning and deep learning models, we aim to streamline processes and provide valuable insights. Our solution prioritizes simplicity, efficiency, and innovation, empowering businesses to thrive in the ever-evolving realm of social media.

Flow Diagram



Gather Customer Data



EDA & Preprocessing of Data



Applying K-means Algorithm & Visualizing Clusters

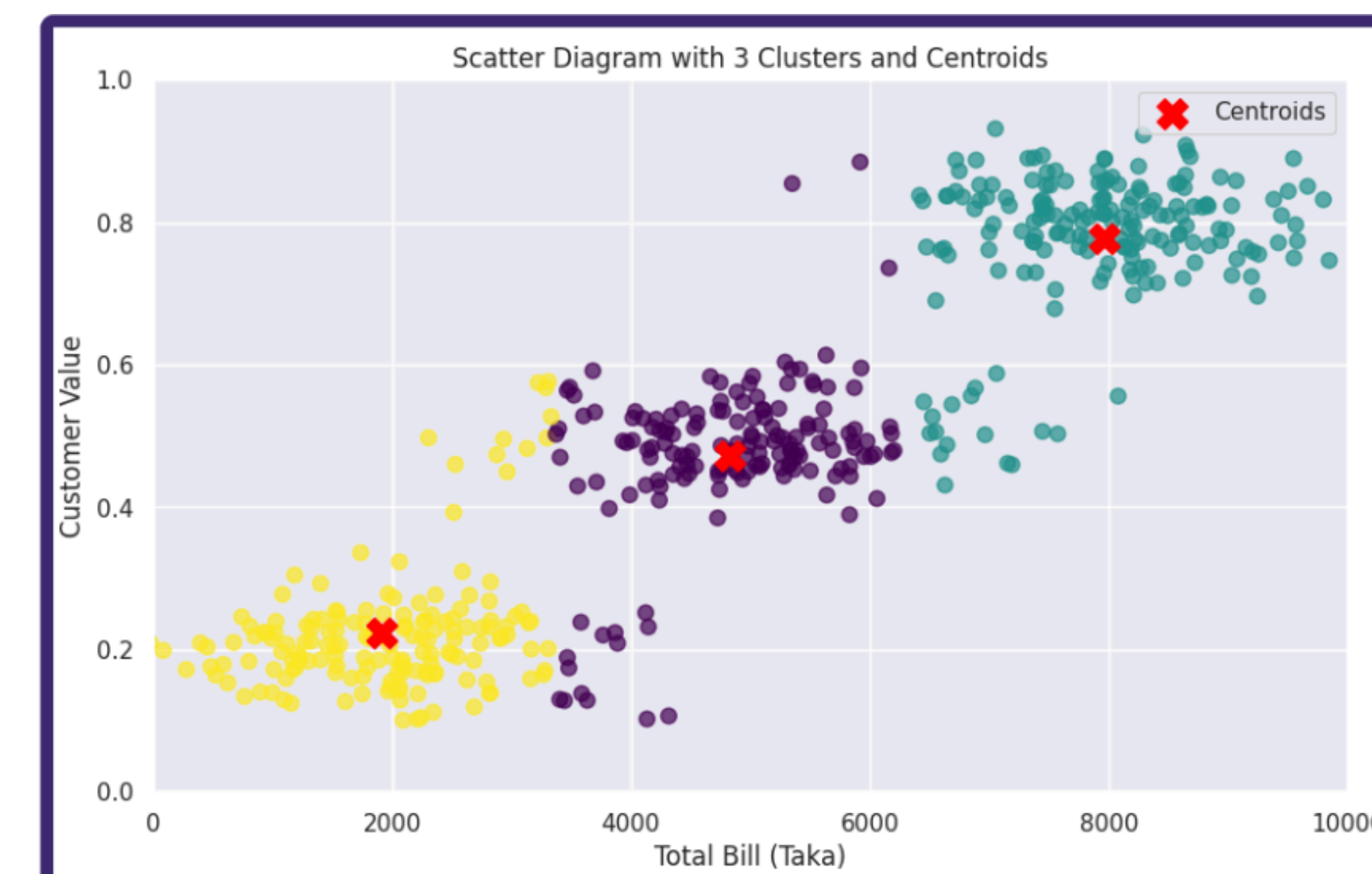
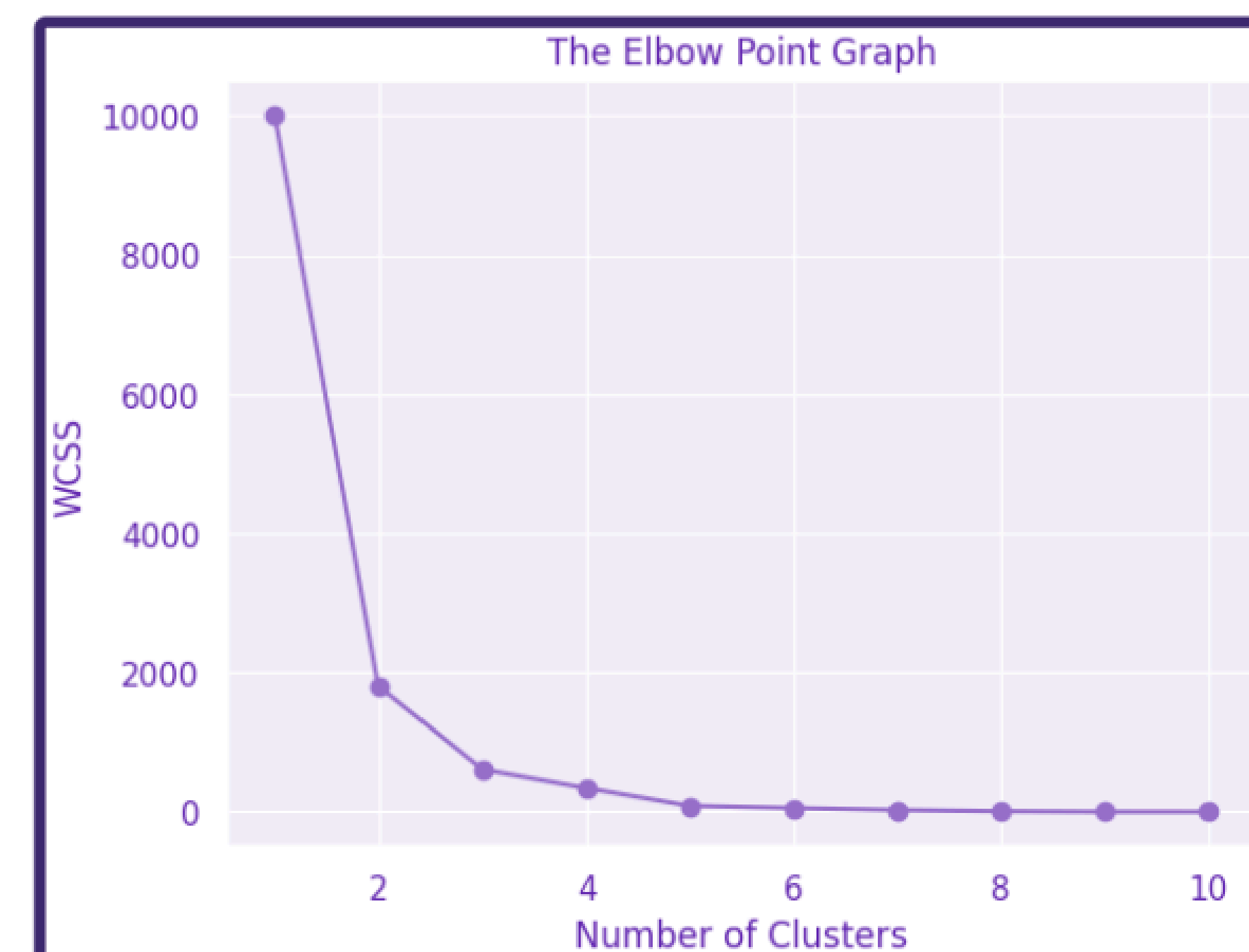


Model Train & Test

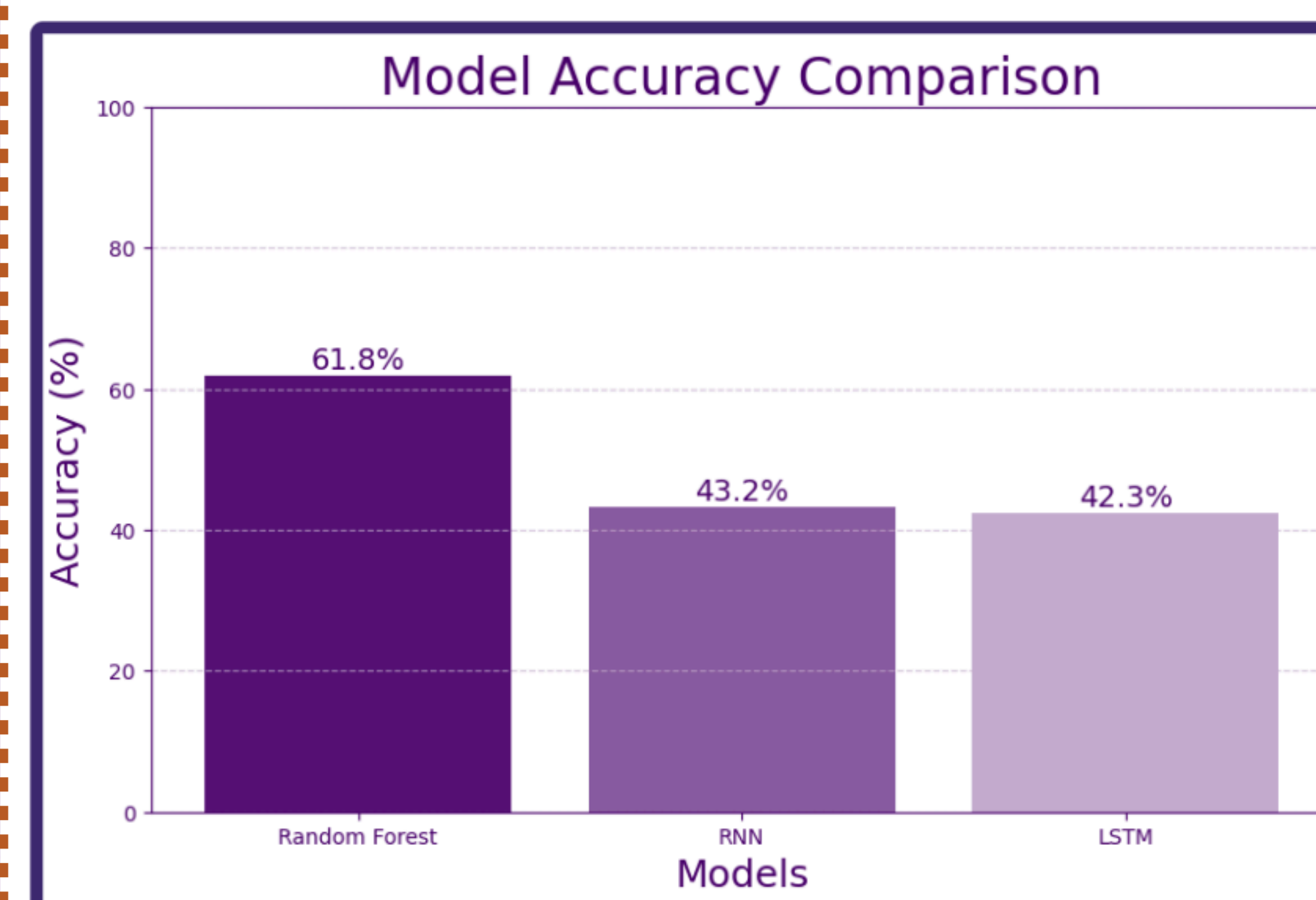


Evaluation & Data Analysis

K-means Clustering



Models used for Data Analysis

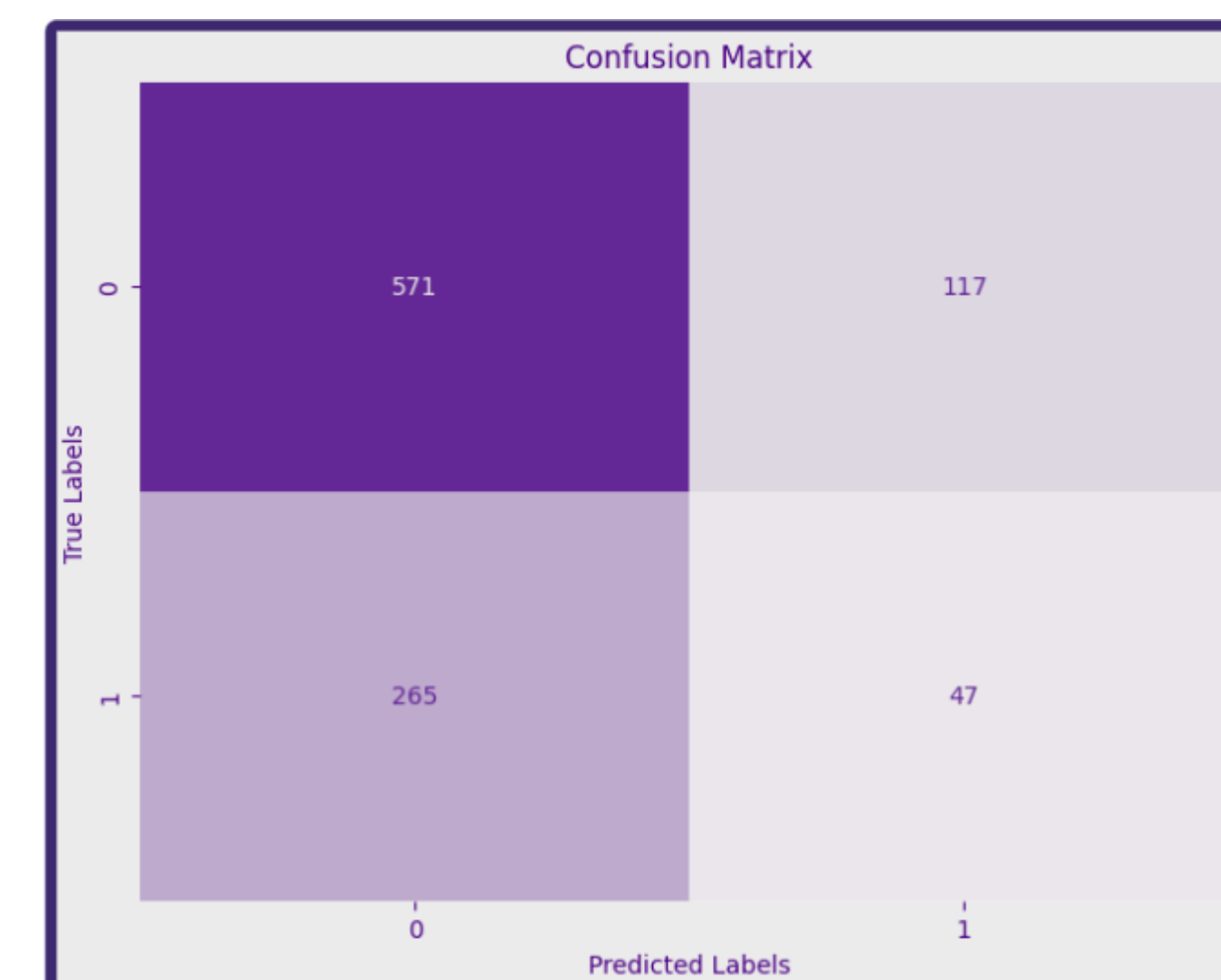


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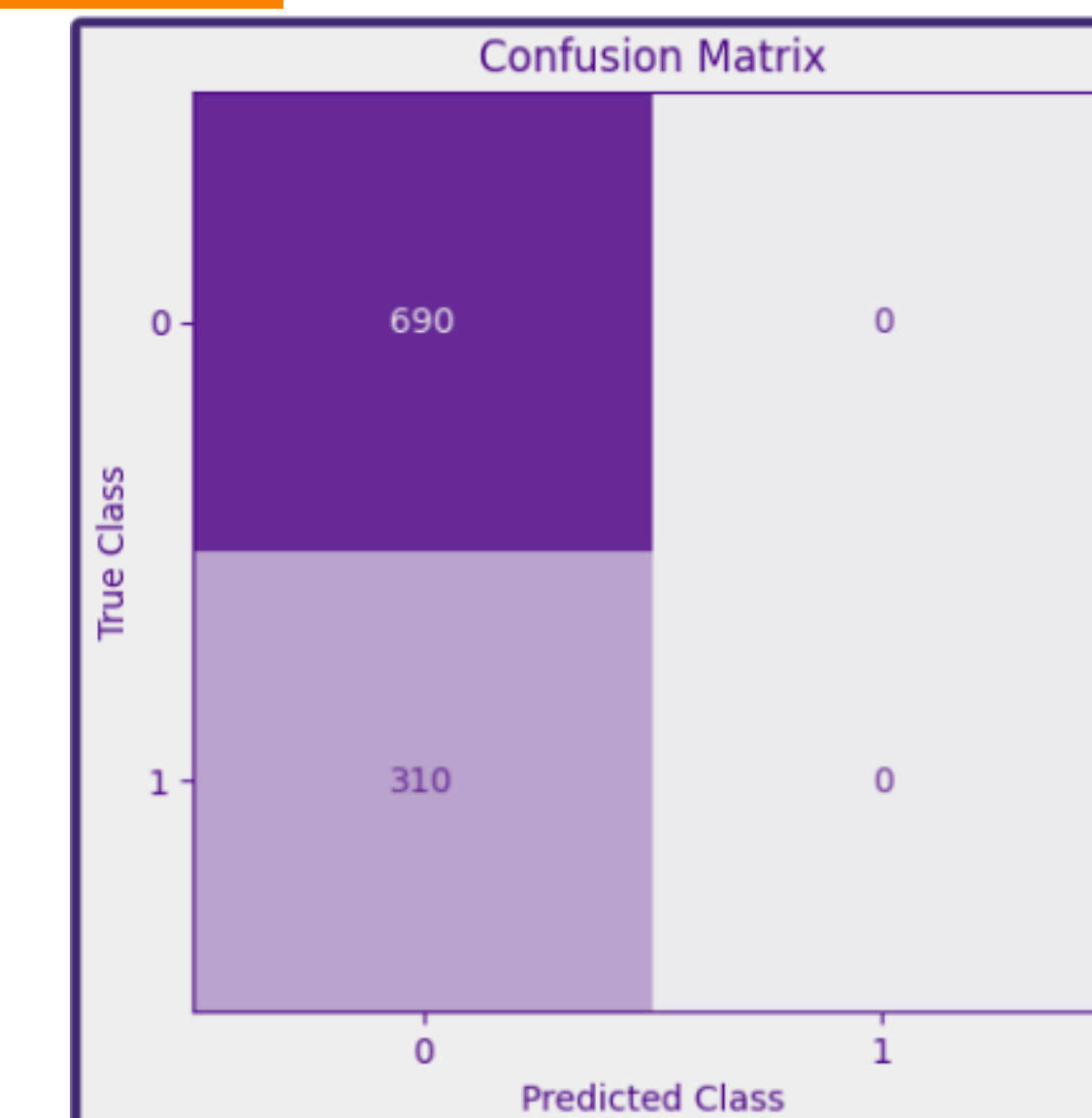
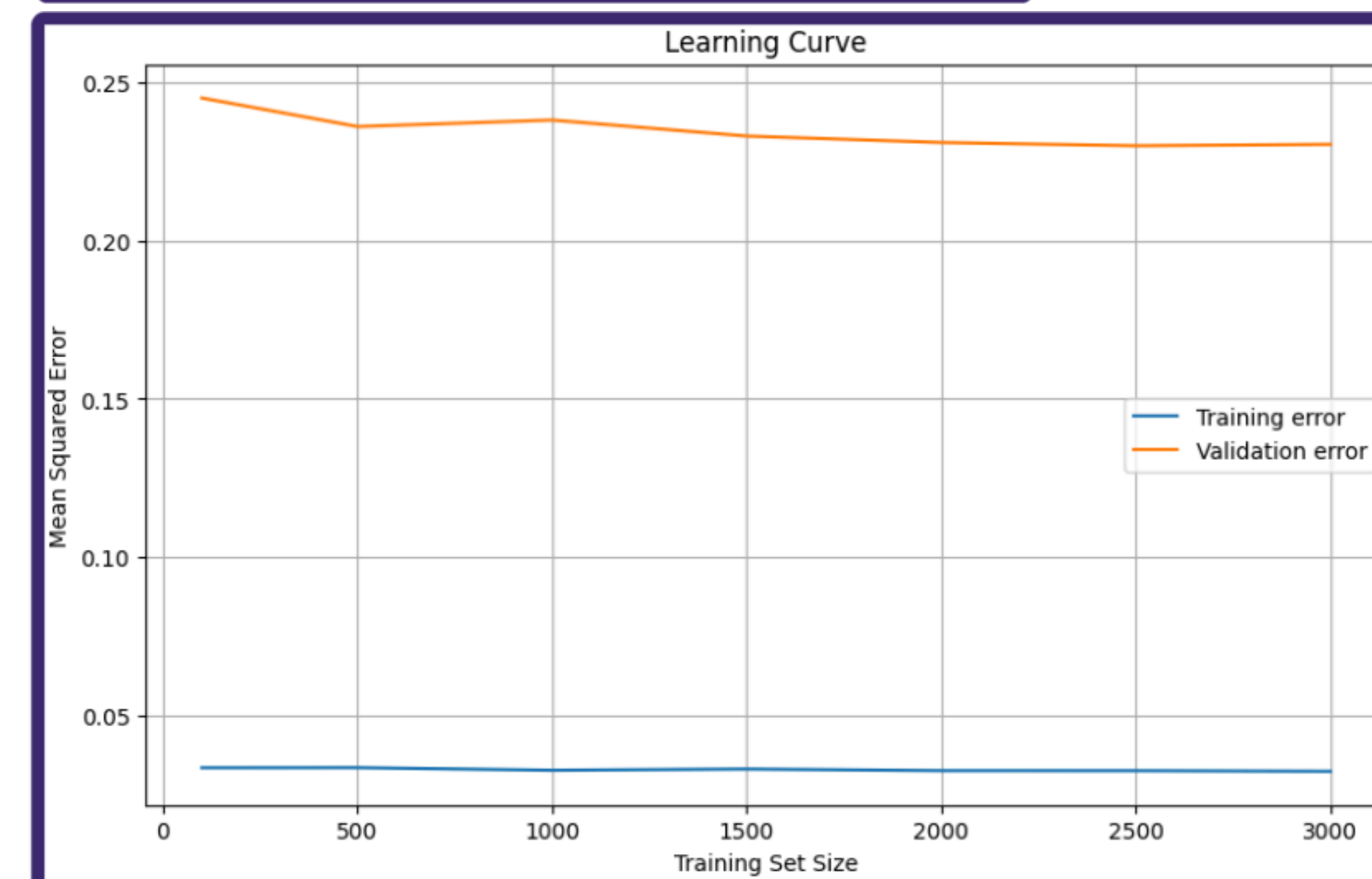
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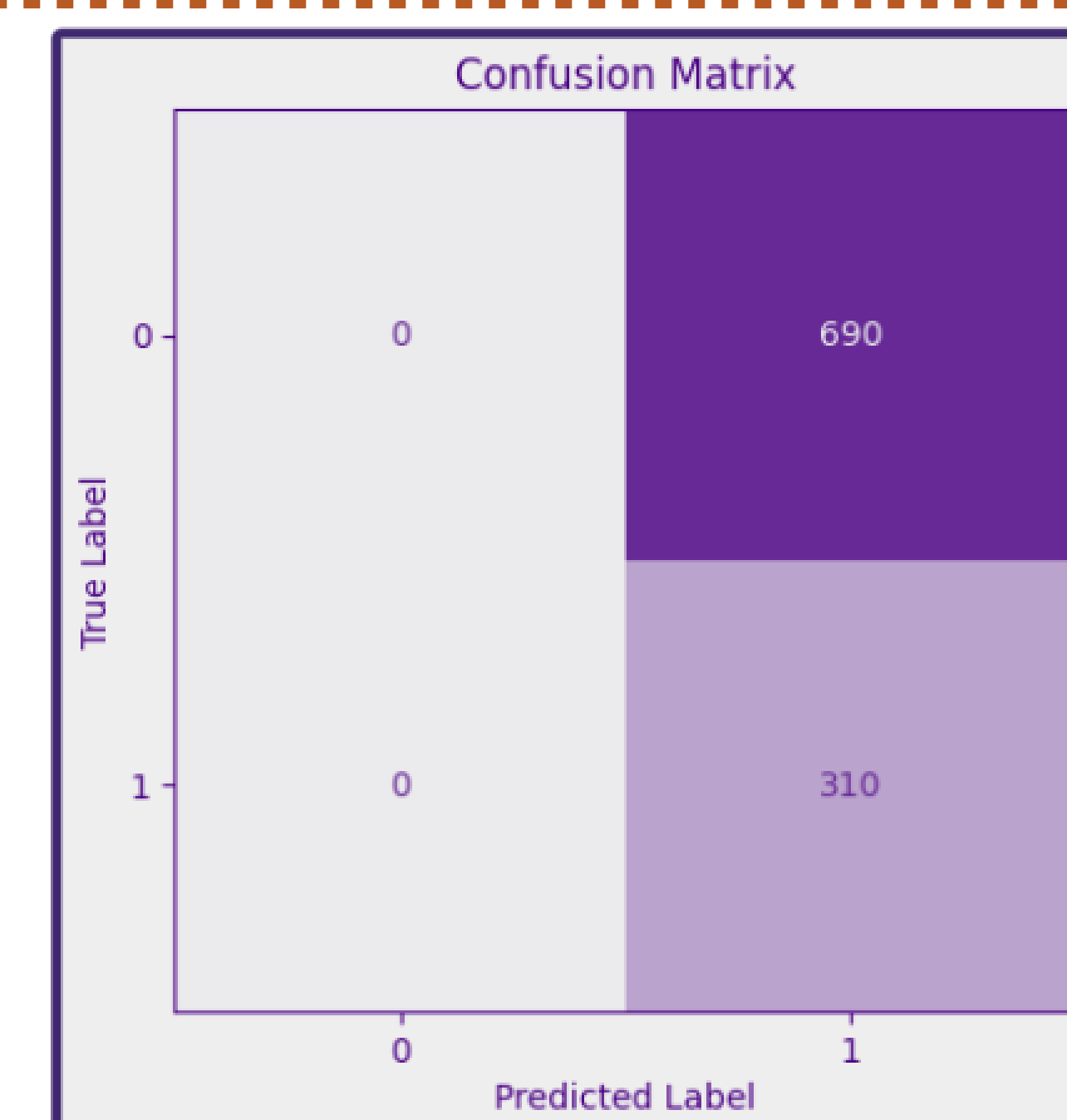
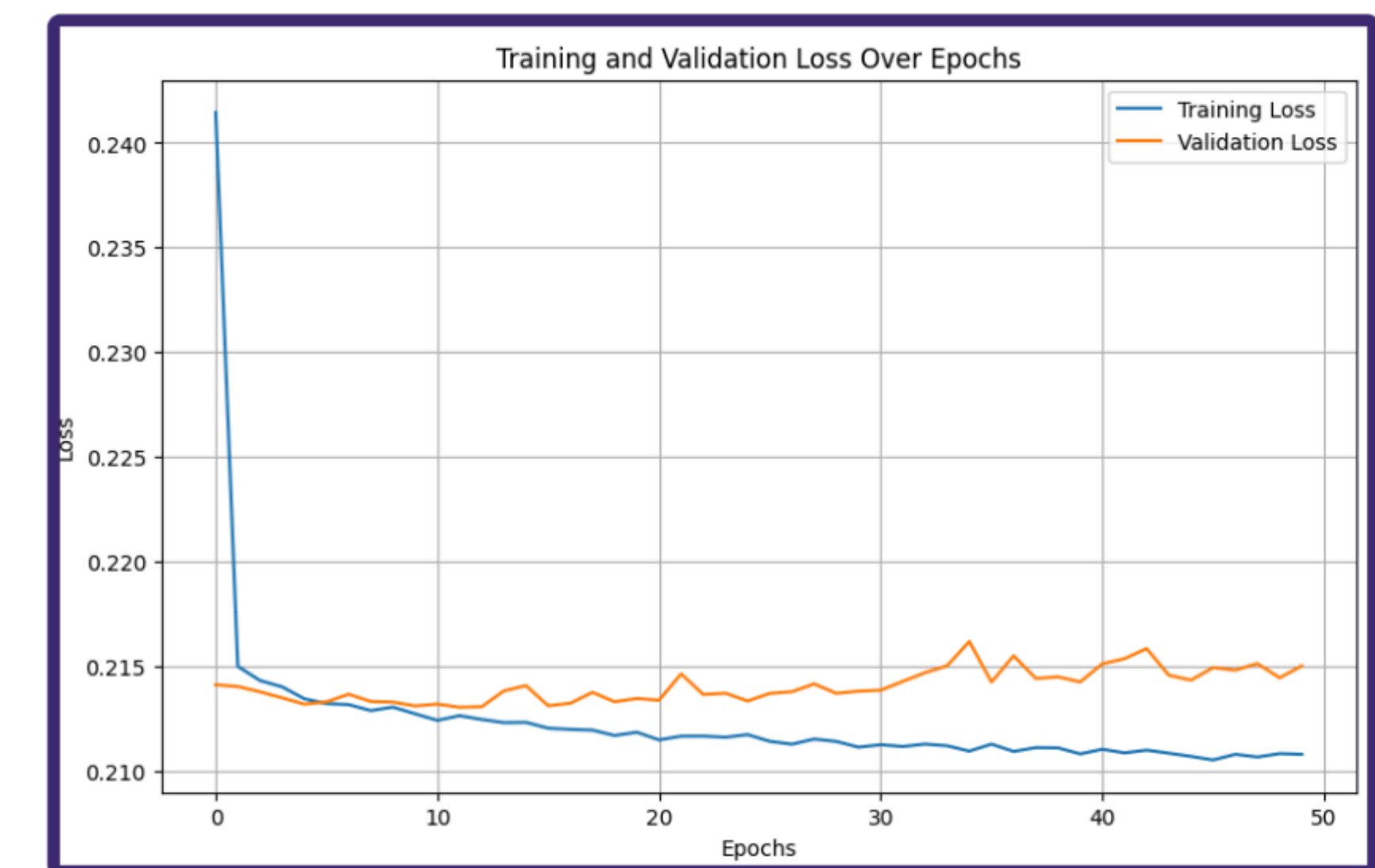
Results



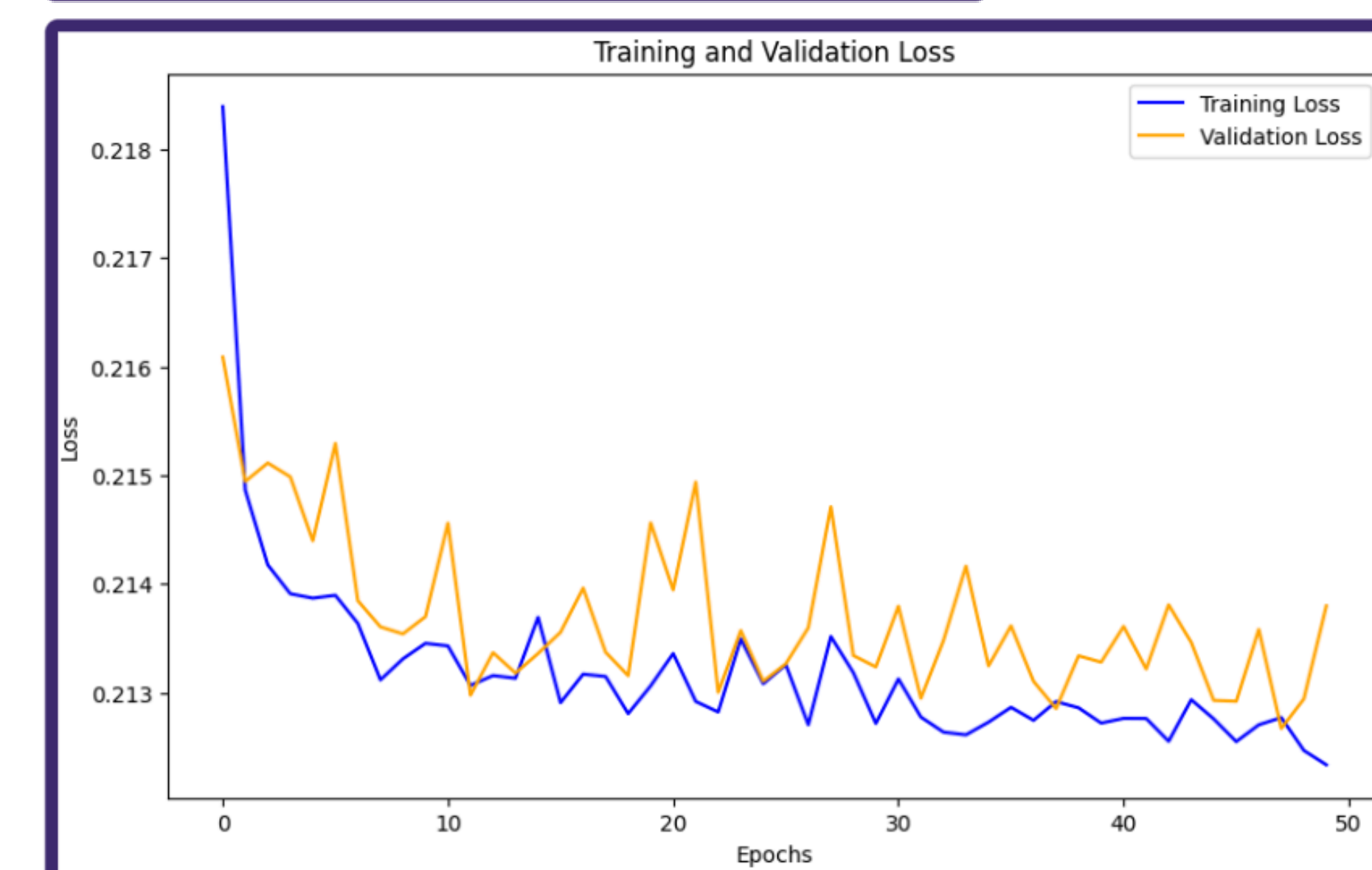
RANDOM FOREST



LONG SHORT-TERM MEMORY (LSTM)



RECURRENT NEURAL NETWORK (RNN)



Conclusion

Upon analysing the data using multiple models & methods, we can conclude that models like Random Forest suit processes of Customer Segmentation, even more than other neural network models.

Acknowledgment

This is to certify that this project is our original work. No part of the work has been submitted elsewhere partially or fully for the award of any other degree or diploma.

It is imperative to show our appreciation for our honorable faculty, Dr. Shahnewaz Siddique for his undivided attention and help to achieve this milestone. Also, our sincere thanks goes to the ECE Department of North South University.