Hizen.ai - Assignment Documentation.

The start of my approach began with importing the foundational python libraries of Python, which were seaborn, matplotlib, sklearn and pandas which is used for training and testing of data, along with data visualization and overall evaluation and analysis.

I started with Exploratory data analysis, which helped learned the feature relations, distribution and dropping redundant and noise values.

Then i proceeded to define the churn threshold of about 30 days and used the RFM metrics which were mentioned in the assignment.

I firstly plotted a graph, which helped me analyze the event, along with its attributes over time.

After that I used the RFM metrics, which helped me segment the customers on the basis of churn.

I opted for stacking ensemble algorithm, which basically applies multiple machine -learning base algorithms and uses a meta-algorithm on the output of those base algorithms.

I chose random forest, gradient boosting and logistic regression algorithms, simply because the knowledge I gained from my academic lectures.

Then the results of those algorithms were visualized with help of confusion matrix, which is based upon the performance metrics and overall accuracy of the result.

Last but not the least, I used Expert System, an AI fundamental, I studied from my academics. This helped us gain the business recommendations.

I briefly viewed the research paper that was attached, and I read other research papers as well, truth to be told, I was not able to extract information due to the lack of understanding from my perspective.

I am well aware the results of the problem statement may be wrong but nevertheless I learned a lot of new things based on Data analysis, so I would like to extend my gratitude regarding it.

Thank you.