Week 7 Deliverables: Problem Description and Business Understanding

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1. Group Introduction

Group Name: NYU

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2. Problem Description

ABC Bank is planning to launch a new term deposit product, but before they do, they want to develop a machine learning model that can predict whether a particular customer is likely to buy the product or not, based on the customer's past interactions with the bank or other financial institutions. The goal is to use this model to shortlist potential customers and focus their marketing efforts only on those customers who are more likely to buy the product. This would help the bank save time and resources that would otherwise be wasted on marketing to customers who are less likely to buy the product.

3. Business Understanding

The objective of ABC Bank is to increase its sales of term deposit products. To achieve this, we plan to develop a machine learning model that can predict whether a customer is likely to buy the product or not. By focusing their marketing efforts on those customers who are more likely to buy, the bank hopes to improve its chances of selling the product and save time and resources that would be wasted on marketing to customers who are less likely to buy. We plan to develop two models, one with the duration feature and one without, to evaluate the impact of this feature on the model's performance. However, the duration feature is not recommended due to its complexity in explaining the results to the business and using it for campaign planning. Ultimately, we aim to create a clear, concise, and accessible report on the performance of the machine learning model to help them make informed decisions on marketing strategies and improve their chances of successfully selling the term deposit product to customers.

4. Project Lifecycle

Week 1:
- Problem Description, Business Understanding, Project Lifecycle

Week 2:
- Understanding dataset, identifying problems in data (outliers, imbalance data, etc.), developing solutions to those problems

Week 3:
- Clean data through various techniques

Week 4:
- Perform EDA on data to gain insights and analysis

Week 5:
- Design presentation of EDA for business, and recommend model for dataset

Week 6:
- Develop model, finalize presentation
- Project is finished