

WEEK 7: Project Plan

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Specialization: Data Science

1: PROBLEM DESCRIPTION

ABC Bank is preparing to launch a new term deposit product and aims to maximize the effectiveness of its marketing efforts. To achieve this, they want to develop a machine learning (ML) model that can predict whether a customer will subscribe to the term deposit based on historical data from previous marketing campaigns. This predictive model will help the bank identify potential customers who are more likely to purchase the product, allowing them to focus their marketing efforts more effectively and efficiently.

2: BUSINESS UNDERSTANDING

ABC Bank is facing the challenge of optimizing its marketing strategy for a new financial product—specifically, a term deposit. Marketing, especially when it involves calling customers directly, can be expensive and time-consuming. By using machine learning, the bank hopes to reduce costs and make the marketing process smoother for customers. Challenges include dealing with an imbalanced dataset and also making sure the chosen model is easy to understand for business teams. This project will deliver a practical, actionable solution aligned with the bank's needs.

3: PROJECT LIFECYCLE AND DEADLINES

WEEK	START DATE	END DATE	DELIVERABLES
WEEK-7	Aug 12, 2024	Aug 19, 2024	Choose project, create project lifecycle and GitHub repo along with data intake report
WEEK-8	Aug 20, 2024	Aug 26, 2024	Data Understanding
WEEK-9	Aug 27, 2024	Sep 2, 2024	Data Cleansing and Transformation
WEEK-10	Sep 3, 2024	Sep 9, 2024	Exploratory Data Analysis (EDA)
WEEK-11	Sep 10, 2024	Sep 16, 2024	EDA Presentation for Business Users
WEEK-12	Sep 17, 2024	Sep 23, 2024	Model Selection and Exploration
WEEK-13	Sep 24, 2024	Sep 30, 2024	Final Submission and Presentation

4: GITHUB REPO LINK

https://github.com/sainadreddy/Data_Glacier_Intership_2024

5: DATA INTAKE REPORT

Name: Bank Marketing (Campaign) -Term Deposit Subscription Prediction

Report date: 19/08/2024

Internship Batch: LISUM35

Version:1.0

Data intake by: Sainad Reddy Naini

Data intake reviewer:

Data storage location: <https://archive.ics.uci.edu/dataset/222/bank+marketing>

Tabular data details: Bank_Full

Total number of observations	45211
Total number of files	1
Total number of features	17
Base format of the file	CSV
Size of the data	4.39 MB

Tabular data details: Bank_Additional_Full

Total number of observations	41188
Total number of files	1
Total number of features	21
Base format of the file	CSV
Size of the data	5.56 MB

Proposed Approach:

1. Data Understanding
 - Understand the data and identify any data-related problems.
2. Data Cleansing and Transformation
 - Check for null values, missing data, incorrect data types, and duplicates.
3. Exploratory Data Analysis (EDA)
 - Perform feature analysis and create visualizations.
4. EDA Presentation for Business Users
 - Create presentations based on EDA results for the business team
5. Model Selection and Exploration
 - Explore different models and evaluate their performance
6. Final Submission and Presentation