

# PROJECT SYNOPSIS

CSET-228  
DATA MINING AND PREDICTIVE MODELING  
TEAM PROJECT

## MEMBERS:

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## TITLE:

BANK DEPOSIT PREDICTION: DIRECT MARKETING  
ANALYSIS

➤ **Introduction:**

This project aims to analyze the effectiveness of direct marketing campaigns conducted by a banking institution to promote bank term deposits. The background research indicates that such campaigns often require multiple contacts with clients to determine subscription outcomes, leading to resource inefficiencies. Therefore, the project seeks to develop a predictive model to forecast whether a client will subscribe to a bank term deposit based on campaign data.

➤ **Objectives:**

Develop a predictive model to forecast bank term deposit subscriptions.

Optimize marketing resources by targeting clients with higher subscription probabilities.

Improve campaign efficiency and ROI through targeted marketing strategies.

➤ **Scope:**

Included: Analysis of direct marketing campaign data, predictive modeling, and evaluation.

Excluded: In-depth analysis of macroeconomic factors or market trends impacting banking sector performance.

➤ **Methodology:**

Data preprocessing: Cleaning, feature engineering, and encoding categorical variables.

Model selection: Experimentation with various classifiers like logistic regression, decision trees, and random forests.

Evaluation: Validation and testing using appropriate metrics such as accuracy, precision, recall, and ROC AUC.

➤ **Significance/Benefits:**

Enhance decision-making capabilities for marketing campaigns.

Improve resource allocation and cost-effectiveness.

Potentially increase subscription rates and revenue for the banking institution.

➤ **Expected Outcomes:**

Development of a robust predictive model with high accuracy and reliability.

Identification of key features influencing subscription decisions.

Recommendations for targeted marketing strategies based on model insights.

➤ **Timeline:**

**Data collection and preprocessing: 1 month**

**Model development and validation: 1.5 months**

**Testing and evaluation: 0.5 month**

**Report writing and presentation: 1 month**

➤ **Conclusion:**

**This project aims to leverage predictive analytics to optimize direct marketing campaigns for bank term deposits. By accurately forecasting subscription probabilities, the banking institution can tailor its marketing strategies, leading to improved efficiency and effectiveness in customer acquisition.**