**Project Documentation**

1. **Project Purpose and Features**

This project is a classification model that predicts whether a customer is likely to stop doing business with the company (churn). Accurate churn prediction allows the company to proactively take measures to retain customers, improving customer satisfaction and revenue.

**The project includes several features**:

* Reading and exploring the dataset
* Performing data cleaning and preprocessing
* Training and comparing multiple classification models such as Logistic Regression, Support Vector Machine, Random Forest, and K-Nearest Neighbors to select the best-performing model
* Building an interactive user interface to allow users to interact with the prediction system
* Containerizing the project using Docker with two approaches: building an image via Dockerfile and uploading it to DockerHub, and orchestrating containers using docker-compose

1. **Technology Stack**

* Python 3.9
* Machine Learning libraries (scikit-learn, pandas, numpy, etc.)
* Streamlit for the web interface
* Docker and Docker Compose for containerization and orchestration

1. Team Members

* Mohamed Taha Hassan
* Hamdi Saad Hamed
* Mohamed Farag
* Mohamed Ali AbdulNabi Ali
* Mohamed Mohsen Awadullah

