

Week 1 Overview Report

Tasks Completed This Week

- Loaded and preprocessed data
 - Performed exploratory data analysis (EDA)
 - Built and evaluated baseline deep learning model
 - Implemented cross-validation and initial performance metrics
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Progress Towards Final Goal

Project is approximately **50–60% complete**.

Data cleaning, EDA, and initial model development are done.

Upcoming work includes hyperparameter tuning and model improvement.

Challenges Faced

- Data imbalance affecting model performance
 - Overfitting in early model iterations
 - Difficulty identifying important features for prediction
 - Limited team coordination on Git workflows
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Support Required

- Best practices for handling imbalanced datasets (e.g., SMOTE)
 - Model interpretability tools (e.g., SHAP, LIME)
 - Setting up a structured and collaborative GitHub repository
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Time Spent This Week

Approx. 12 hours

- Data preparation: 3h
 - EDA: 2.5h
 - Modeling: 4h
 - Evaluation: 2.5h
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Plan for the Coming Week

- Train ensemble models (Random Forest, XGBoost) and pre-trained DL models.
- Perform hyperparameter tuning
- Improve visualizations (e.g., ROC curve, feature importance)
- Prepare next version of GitHub repository and documentation