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 **25–30% complete**.
Data cleaning, EDA, and initial model development are done.
Upcoming work includes hyperparameter tuning and model improvement and building a Web based application for Visual Representation.

Challenges Faced

- Data imbalance affecting model performance

- Overfitting in early model iterations

- Difficulty identifying important features for prediction

Support Required

- Best practices for handling imbalanced datasets (e.g., SMOTE)

- Model interpretability tools (e.g., SHAP, LIME)

- Suggestions on best models for our usecase.

Time Spent This Week

Approx. 12 hours

- Data preparation: 3h

- EDA: 2.5h

- Modeling: 4h

- Evaluation: 2.5h

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)