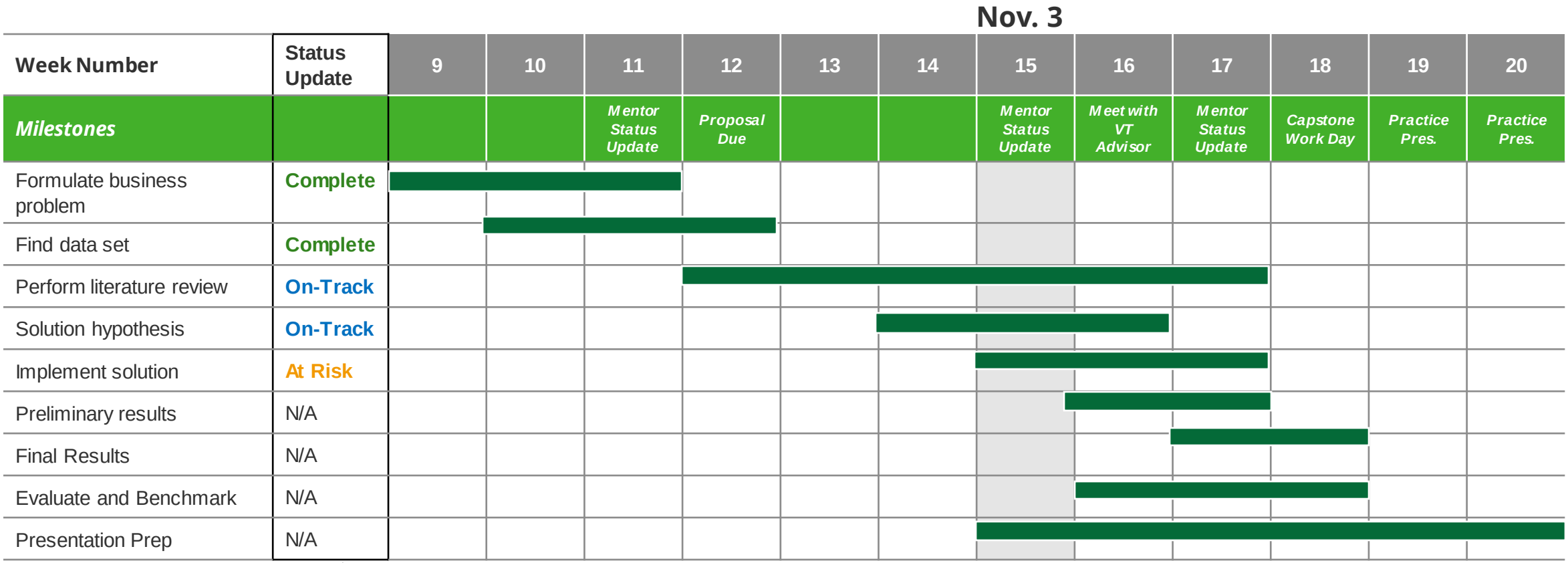
Project Timeline

November 3, 2023



Indicate:
Complete
On Track
At Risk
Off Track

Capstone Proposal: Bank Account Fraud Detection

Project Name	Bank Account Fraud Detection
Business Understanding	Our team is aiming to detect bank account fraud detections by evaluating a variety of variables related to financial status, personal identification, and payment patterns. We will uncover the answers to questions such as: 1. Which factors should be prioritized when monitoring bank account fraud? 2. Which predictors affect fraud detection the most? 3. Are there trends for the frequency of fraud types?
Client/Project Motivation	Our clients are banks and financial institutions. Bank account fraud costs companies millions of dollars every year and creating a proactive approach towards bank account fraud detection may help cut costs and increase awareness of fraud factors or triggers.
Market /Industry	Finance, Banking, Insurance
State of the Art	Our team plans to make our model state of the art by incorporating logistic regression and building out additional features that other models are currently not considering.
Success Metrics (Evaluation)	Our team will evaluation success by examining precision, recall, confusion matrix, accuracy rates, ROC and AUC scores.
Scalability	The team will build scalability into the model throughout the development stage by experimenting with data set size and varying feature counts to increase the likelihood of continued effectiveness. Employing Logistic Regression as well will improve performance.

Modeling Requirements

Data Type	CSV file: numeric & categorical variables
Data Source	**Kaggle:** Bank Account Fraud
Data Preparation Steps	Look at distributions, patterns and correlations. Apply appropriate filters for outliers Deal with null values. Standardize variables. Address class imbalance. Train & test split, SMOTE
Data Challenges	Target class imbalance, identifying column features such as ambiguous features, limited labeled data
Modeling Techniques	Classification: - Logistic Regression - Decision Trees with ensemble methods
Target Variable	Fraud (1) or no fraud (0)
Regression or Classification problem	Classification
Tools/Methodologies	Pandas, SkLearn, NumPy

Status Update

Provide update/reminder on the goal of the project for the client here

What we did in last two weeks

Finalized Capstone Topic & Datasets

The team narrowed down a capstone project and found a dataset from Kaggle to leverage

Submit Proposal and Employ VT Advisor Feedback

The Capstone Proposal was created and finalized

Deloitte Mentor Check-ins

Met with Deloitte advisor to discuss progress and potential roadblocks

Task Assignments

Assigned responsibilities per team member

What we will accomplish in next two weeks

Schedule Regular Team Meetings

Continue updating project timeline and roles and responsibilities

Continue Individual EDA & Model Creation

Begin joining datasets, and sanitizing data and employing ML methods

Begin Model Creation

Finalize EDA and begin employing ML techniques for model creation

Roles and Responsibilities

Pengwei Wang: EDA and progress updates

Hadley Campbell: EDA and progress updates

Brian Rodriguez : EDA and progress updates

Payton Stauble: EDA and progress updates