# Progress Report

# Fraudulent Transaction Detection System

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1. **Project milestones**

**Status**: completed ongoing not completed

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| --- | --- | --- | --- | --- |
| *Item #* | *Tasks* | *Due Date* | *Status* | *Comments* |
| 1 | Identifying Data Sources and Data Set for the Project. | 1/30 |  | Completed. There can be various sources and types of transactions, but fraudulent transactions mainly involve credit-card-based fraud, so focusing on credit-card-based datasets. Once the model is trained and tested will try to include other related datasets as well. |
| 2 | Preprocessing and cleaning data in the dataset. | 2/15 |  | Currently ongoing. Identifying the relevant fields, cleaning the noise from data, and normalizing specific fields with larger scales.  Used RobustScaler to preprocess certain columns in the dataset. |
| 3 | Determine the correct tools and technologies to use in the project. | 2/15 |  | Currently using Google Colab for training and evaluating the model as it provides better GPU. Python 3.0, Django, Jupyter Notebook, javascript HTML and CSS, and NoSql constitute the project's planned tech stack. |
| 4 | Define the appropriate ML model to train and use later in the project. | 2/22 |  | Ongoing. It is determined which model would be the best fit for the project. Classification will best fit this project as the dataset has labeled data and will predict the category of new data points(transactions).  Training of the model is ongoing. |
| 5 | Testing and evaluating the model performance. | 3/14 |  | Incomplete. The dataset is already divided into training, testing, and validation sets. The testing set will be used when the model is trained. |
| 6 | Saving the model and using it integrate it with the front-end. | 3/28 |  | Integrating the model with the front end is not possible on Google Colab. The model will be saved and used later in VS code for development. |
| 7 | Designing and developing the UI and UX. | 4/16 |  | Incomplete. A comprehensive front-end user interface will allow users to see the statistics of transactions and validate new transactions. |
| 8 | Integrating the model and front-end and testing the overall working of the project. | 4/30 |  | Incomplete. This phase will involve combining the developed model with the user interface and subsequently evaluating the functionality and performance of the project through comprehensive testing procedures. |
| 9 | Deployment | 4/30 |  | After successful development and testing, the project will be strategically deployed utilizing an appropriate platform, such as GitHub or Netlify, considering the final project size and resource availability. |

1. **A summary of progress**

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1. **Significant problems or changes**

None

1. **Questions**
2. Is it okay if certain things aren’t fixed yet in the project's technology stack?
3. **Detailed descriptions of completed tasks and results (optional)**

Detailed descriptions of the completed tasks and results.