

# Multi-purpose Machine Learning Tool

## ML Tool

A web application tool for

- Data Pre-Processing
- Data Visualization
- ML Model Training

Frameworks used:

- Front-end Framework: Vue JS
- Back-end Framework: Flask

Developed By:

Manoj Pissay A

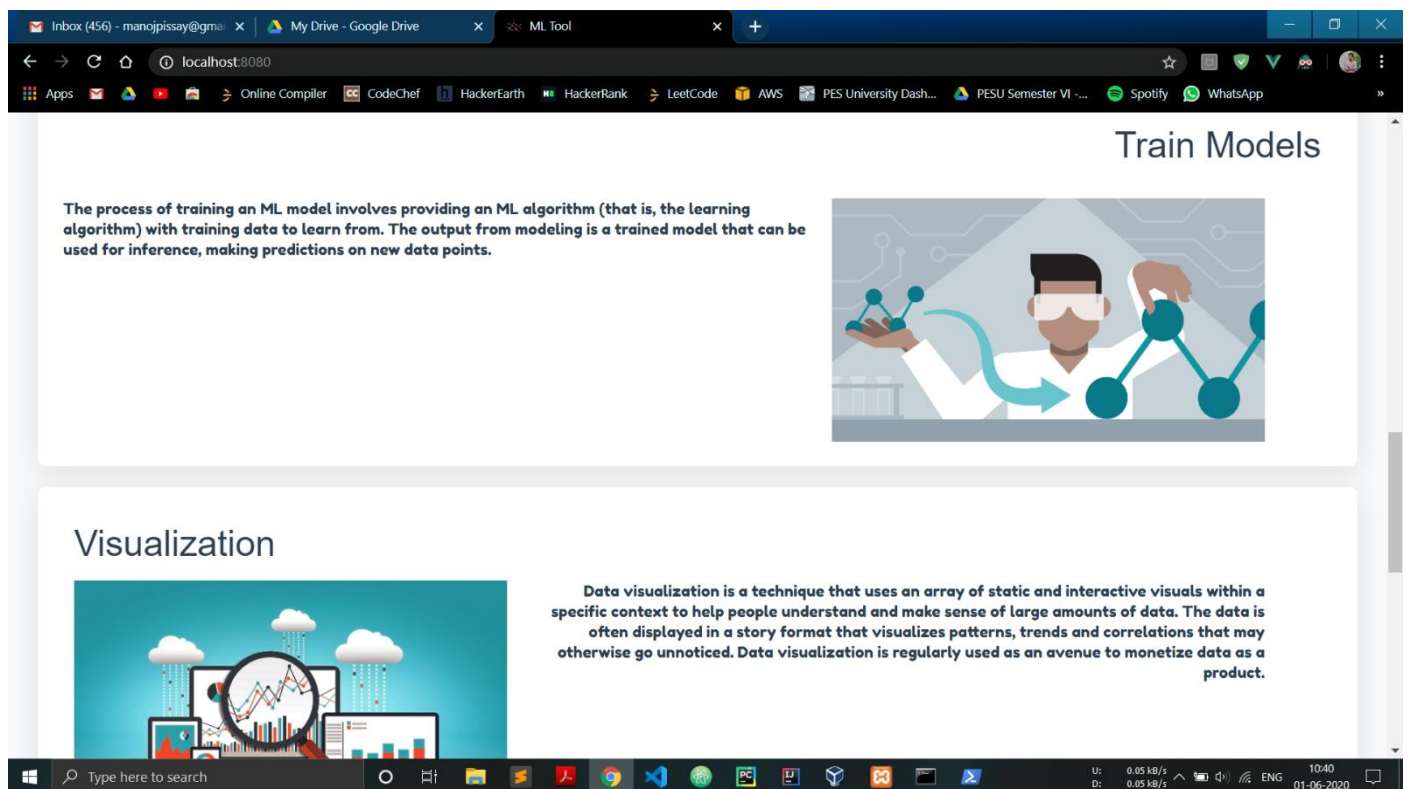
Sachetan Sabhahit

Avinash MS

## Home Page:

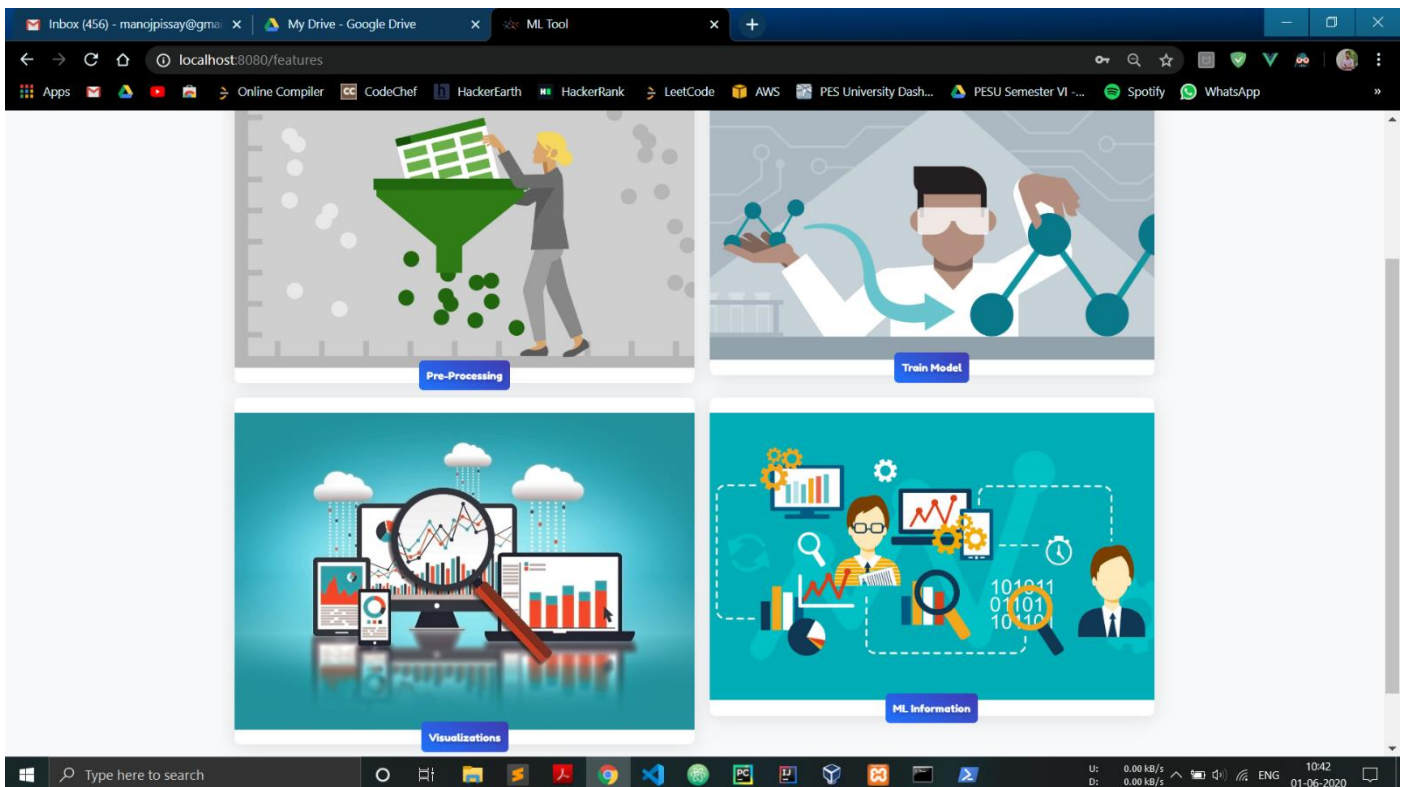
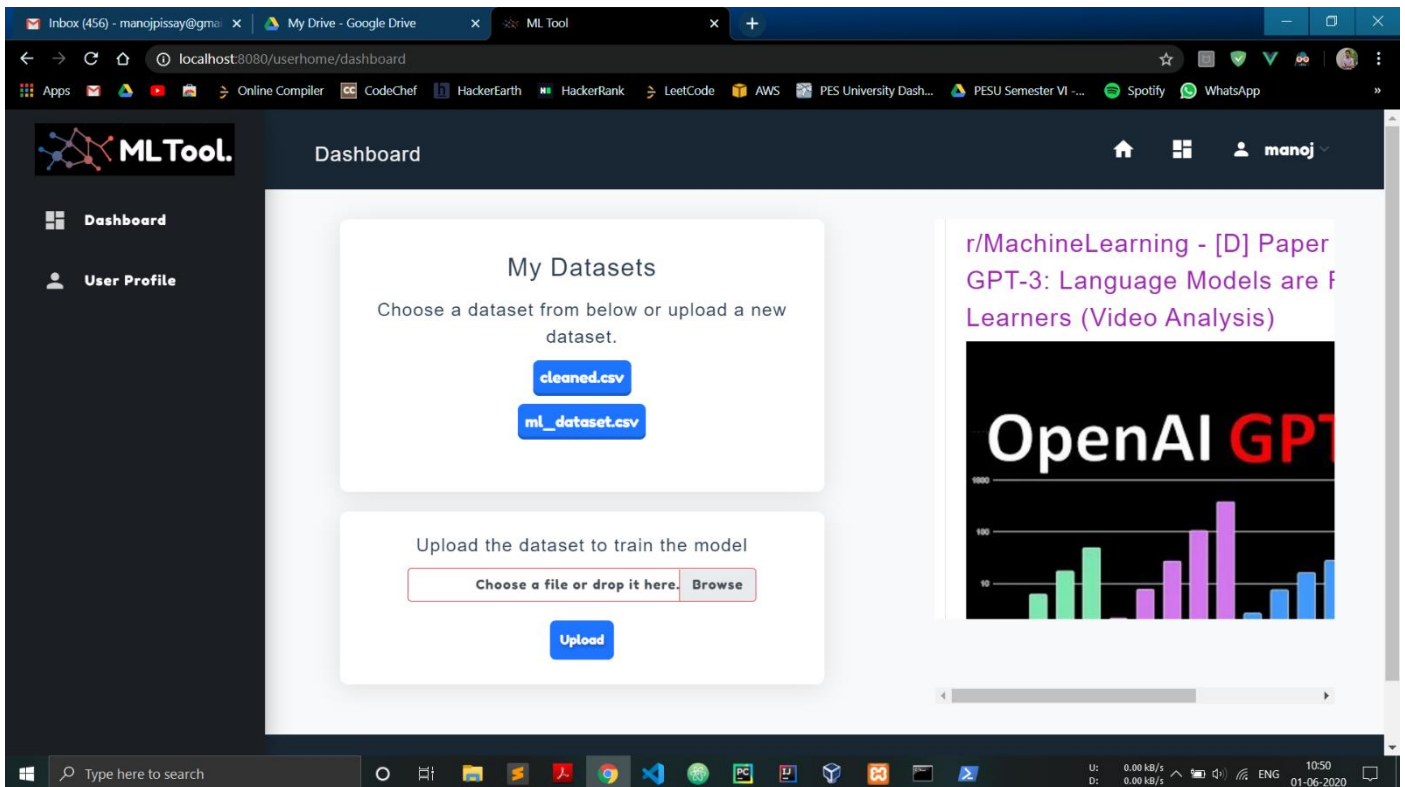


The screenshot shows a web browser window with the address bar displaying 'localhost:3080'. The browser's tab bar includes 'Inbox (456) - manojpissay@gmail.com', 'My Drive - Google Drive', and 'ML Tool'. The browser's address bar shows 'localhost:3080'. The browser's toolbar includes icons for 'Apps', 'Email', 'Calendar', 'Online Compiler', 'CodeChef', 'HackerEarth', 'HackerRank', 'LeetCode', 'AWS', 'PES University Dash...', 'PESU Semester VI - ...', 'Spotify', and 'WhatsApp'. The browser's status bar shows 'U: 0.00 KB/s', 'D: 0.00 KB/s', 'ENG', and '10:39 01-06-2020'. The MLTool logo is displayed in the top left corner, and 'Login' and 'Sign Up' buttons are in the top right corner. The main heading reads 'One stop destination for all your Machine Learning tasks.' Below this is a large illustration featuring a bar chart, a magnifying glass, a target, a clock, a calendar, and a pie chart, all set against a yellow background with a grid pattern.



The screenshot shows the 'Train Models' and 'Visualization' sections of the MLTool website. The browser window is the same as in the previous screenshot. The 'Train Models' section has a heading 'Train Models' and a paragraph: 'The process of training an ML model involves providing an ML algorithm (that is, the learning algorithm) with training data to learn from. The output from modeling is a trained model that can be used for inference, making predictions on new data points.' To the right of the text is an illustration of a person wearing a white lab coat and safety goggles, holding a blue molecular structure. The 'Visualization' section has a heading 'Visualization' and a paragraph: 'Data visualization is a technique that uses an array of static and interactive visuals within a specific context to help people understand and make sense of large amounts of data. The data is often displayed in a story format that visualizes patterns, trends and correlations that may otherwise go unnoticed. Data visualization is regularly used as an avenue to monetize data as a product.' To the left of the text is an illustration of a person wearing a white lab coat and safety goggles, holding a blue molecular structure. The browser's status bar shows 'U: 0.05 KB/s', 'D: 0.05 KB/s', 'ENG', and '10:40 01-06-2020'.

## Dashboard:



## Pre-Processing:

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localhost:3080/features/preprocessing

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MLTool. Preprocessing

### Data Pre-Processing

Target Column:

Not sure how to pre-process the data? [Pre-process Data](#)

Features to remove:

- ☐ Unnamed: 0
- ☐ P. Zone Class
- ☐ P. Mass Class
- ☐ P. Composition Class
- ☐ P. Atmosphere Class
- ☐ P. Mass (EU)
- ☐ P. Radius (EU)
- ☐ P. Density (EU)
- ☐ P. Gravity (EU)
- ☐ P. Esc Vel (EU)
- ☐ P. SFlux Min (EU)

Type here to search

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## ML Model Training:

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localhost:3080/features/models

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### Choose the model to train the data:



Decision Tree



SVM



Neural Network



Random Forest



KNN



Naive Bayes

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## Parameters for a ML Model (Decision Tree)

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### Parameters for Decision Tree

Not sure what parameters to use? [Get Best Parameters](#)

Note: Below auto-filled parameters are the default values set by sklearn.

Criterion:

Splitter:

Maximum Depth of the tree: (integer)  
(If None, then nodes are expanded until all leaves are pure)

Minimum number of samples required to split an internal node:

Minimum number of samples required to be a leaf node:

Maximum number of leaf nodes (integer):  
(If None then unlimited number of leaf nodes.)

[Train Model](#)

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## ML Model Report:


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localhost:8080/features/models/model-report

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### ML Model Report

Model Chosen: Decision Tree



**Accuracy: 0.997309**

**Confusion Matrix: [ [ 1098, 1 ], [ 2, 14 ] ]**

**Precision: 0.933333**

**Recall: 0.875**

**f1-score: 0.903226**

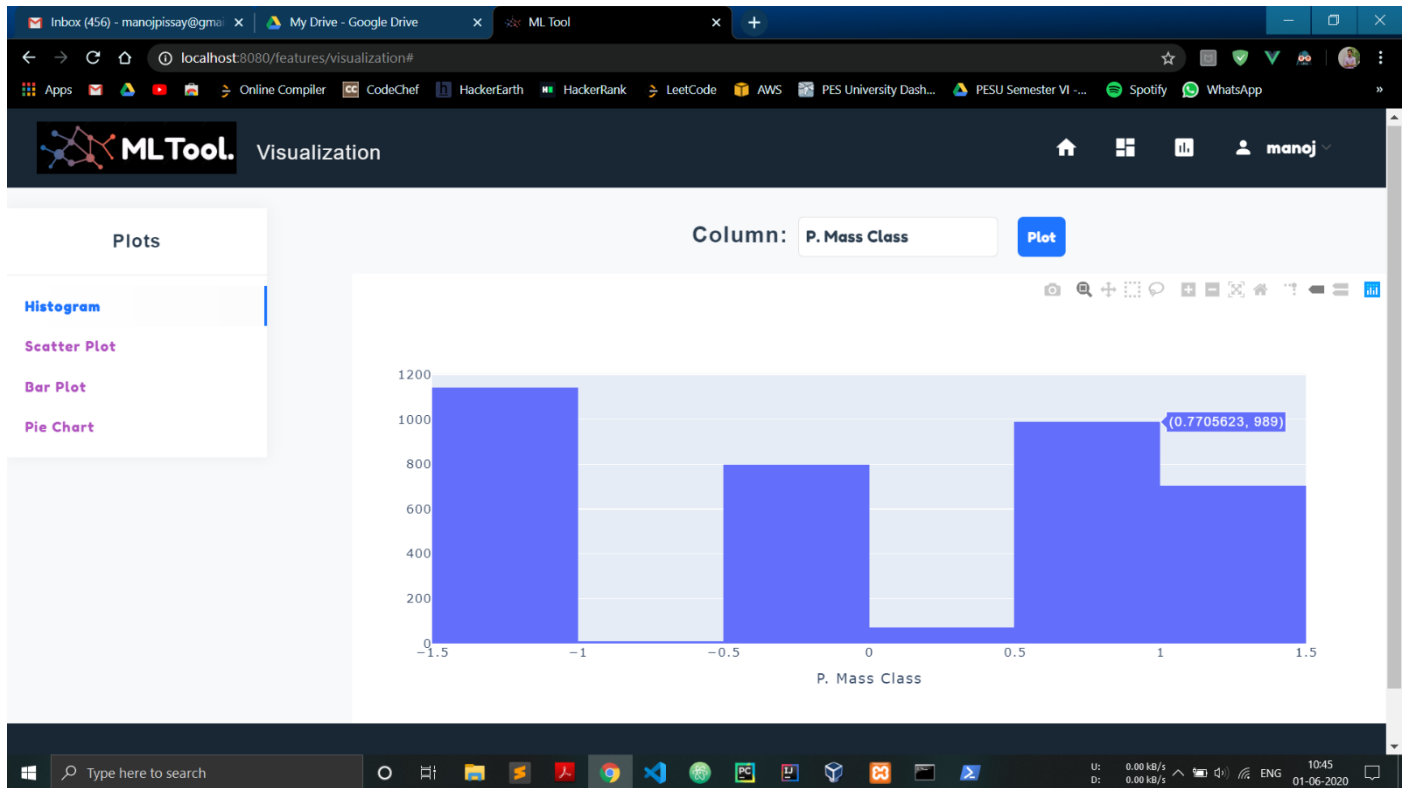
[Download Trained Model](#)

Type here to search

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Visualization:

Histogram:



Scatter Plot:

