AutoML Project - Frontend Documentation

Overview

This document provides an overview of the frontend architecture for the AutoML project. The frontend is designed using **vanilla JavaScript, HTML, and CSS**, ensuring a lightweight and efficient user experience. The interface allows users to upload datasets, view model training results, and download the best-performing model.

Tech Stack

- **HTML**: Structure of the web pages.
- **CSS**: Styling the UI with dark mode support.
- **JavaScript**: Handles user interactions, API calls, and dynamic updates.

Folder Structure

```
frontend/
├── 📂 assets/          # Static assets (images, icons, etc.)
├── 📂 css/             # Stylesheets (CSS files)
├── 📂 js/              # JavaScript logic (UI interactions, API calls)
├── 📂 components/      # Reusable HTML templates
├── 📜 index.html       # Main UI
├── 📜 upload.html      # Page for uploading datasets
├── 📜 results.html     # Page displaying model results
├── 📜 about.html       # About the project
```

Page Descriptions

1️⃣ `index.html` (Main UI)

- Displays the project title and a brief description.
- Navigation links: Upload Dataset, Results, About.
- Call-to-action button: "Upload Dataset".

2️⃣ `upload.html` (Dataset Upload Page)

- **File Upload Section**: Allows users to upload CSV, JSON, or database files.
- **Drag & Drop Support**: Users can drag and drop files for easy upload.
- **Select Columns**: Users can choose which columns to keep and which to delete.

- **Choose Target Column**: Dropdown menu for selecting the prediction target.
- **Select Model**: Displays a list of available models for users to choose from.
- **Start Training Button**: Sends dataset and selected options to the backend for model training.
- **File Validation**: Ensures only supported file types and sizes are uploaded.

3️⃣ `results.html` (Model Performance & Best Model)

- Displays the best-performing model and its accuracy.
- **Download Button**: Allows users to download the trained model.
- **Logs Section**: Shows real-time backend logs of the training process.

4️⃣ `about.html` (Project Overview)

- Provides an overview of AutoML, supported dataset formats, and the tech stack used.

CSS Files

- `css/style.css` → General styles (dark mode, buttons, layout).
- `css/upload.css` → Styles for the dataset upload page.
- `css/results.css` → Styles for the model results page.

JavaScript Files

- `js/upload.js` → Handles dataset uploads, column selection, model selection, and API communication.
- `js/results.js` → Fetches & displays model results.
- `js/app.js` → Common logic (loading animations, UI interactions).

Future Enhancements

- Implement **real-time logs** using WebSockets or polling.
- Improve the UI/UX with animations and better error handling.
- Add a **progress bar** to show file upload progress.