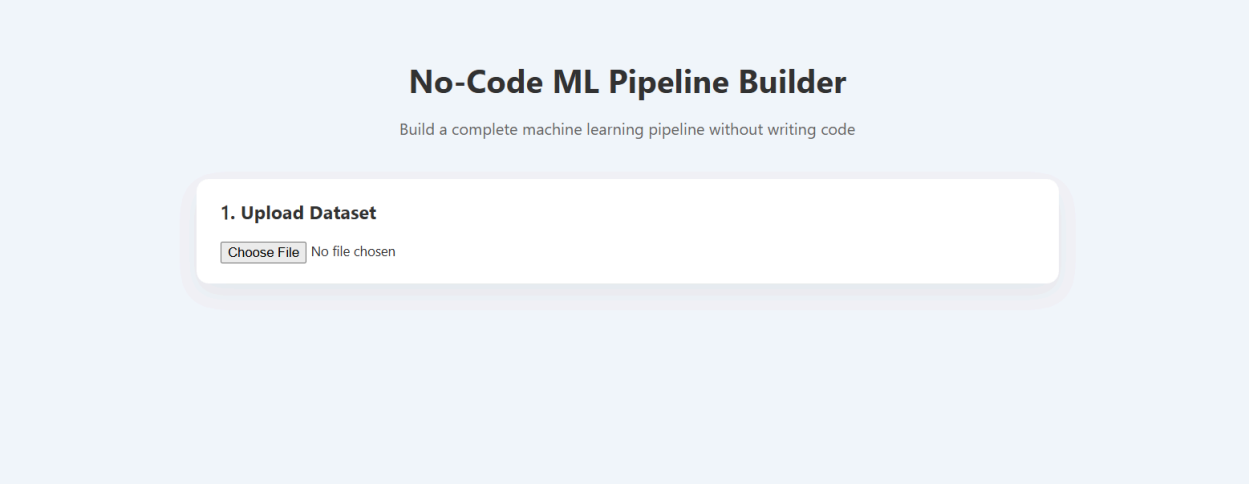
No-Code ML Pipeline Builder

Overview

The **No-Code ML Pipeline Builder** allows users to build and run a complete machine learning workflow **without writing any code**.
The application guides users step-by-step through data upload, preprocessing, model training, and result visualization.

Each step becomes visible **only after the previous step is completed**, ensuring clarity and preventing mistakes.

1. Upload Dataset

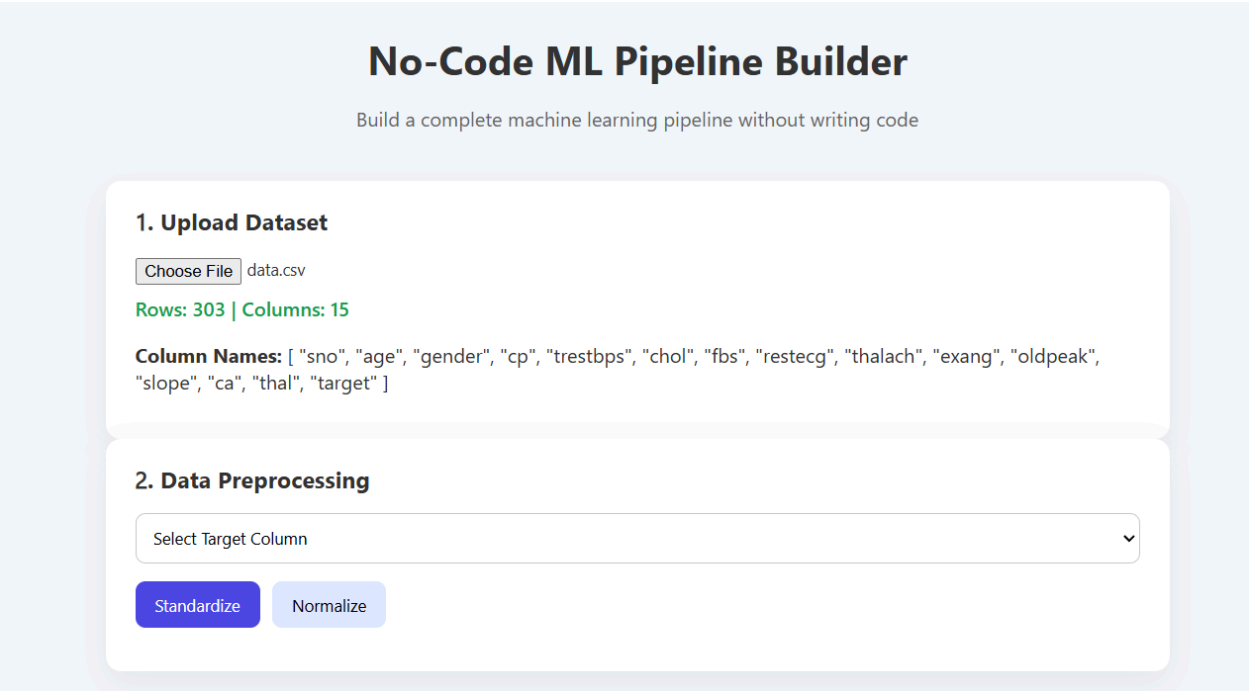


What this step does

Allows you to upload your dataset into the system.

How to use

i. Click Choose File
Ii. Upload a dataset
Iii. Once uploaded, the system automatically displays:
   a. Number of rows
   b. Number of columns
   c. Column names



2. Data Preprocessing

What this step does

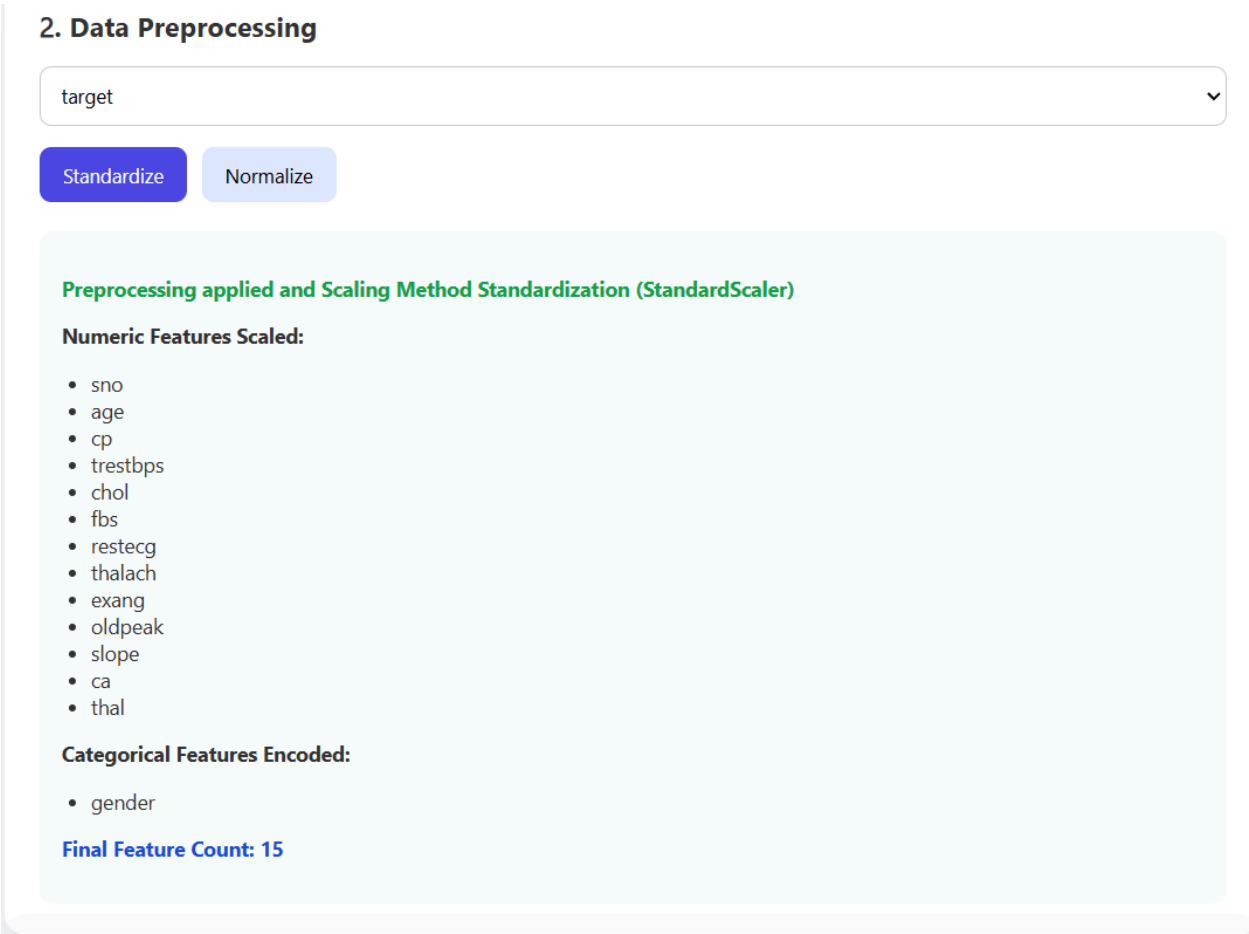
Prepares raw data so it can be used by machine learning models.

Actions required

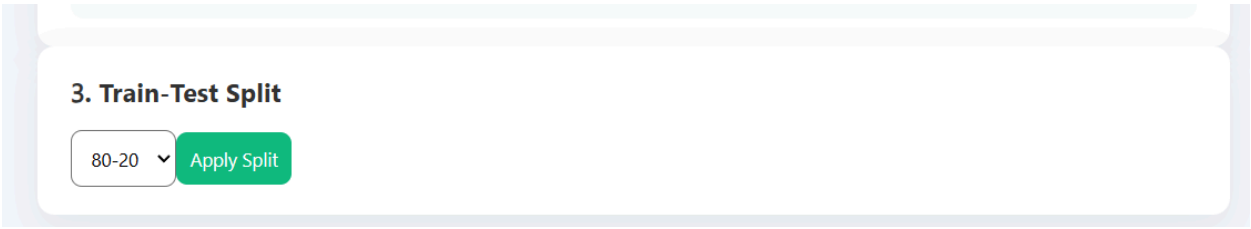
- Select the Target Column
- Choose a **Scaling Method**:
  - Standardize
  - Normalize

What happens automatically

- Missing values are handled
- Numeric features are scaled
- Categorical features are encoded
- Final feature count is calculated



3. Train–Test Split



What this step does

Splits the dataset into:

- Training data – used to train the model
- Testing data – used to evaluate performance

How to use

1. **Select a split ratio:**

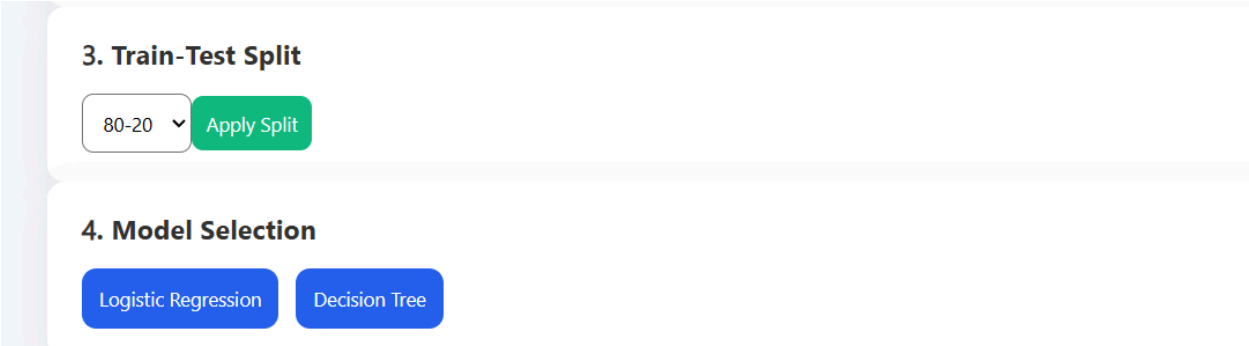
- **80–20 (recommended)**
- **70–30**

2. **Click Apply Split**

Confirmation

A message confirms that the dataset has been split successfully.

- After splitting, the Model Selection step appears.



4. **Model Selection**

What this step does

Allows you to choose and train a machine learning model.

Available models

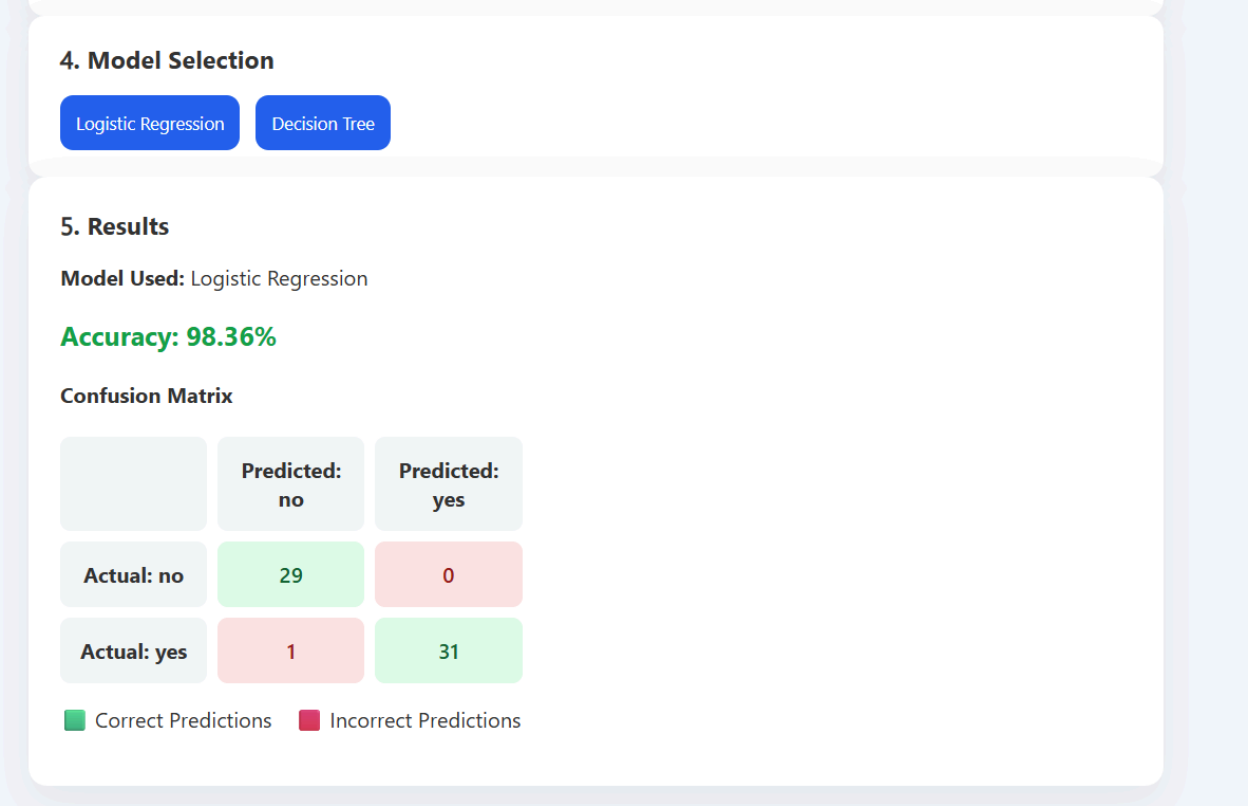
- **Logistic Regression**
- **Decision Tree Classifier**

How to use

1. **Click on one of the model buttons**
2. **The model is trained automatically using the processed data**

After training completes, the Results section appears.

5. Results & Evaluation



Clear and visual model performance metrics.

Displayed information

- Model Used
  Example: *Logistic Regression*
- Accuracy Score
  Example: *98.36%*
- Confusion Matrix
  Displayed as a color-coded grid:
  - 🟩 Green cells → Correct predictions
  - 🟥 Red cells → Incorrect predictions