ZeroCodeML

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🔍 Core Project Objective

> Build a system that accepts a dataset and task (like classification, regression, or clustering), then **automatically processes, trains, evaluates, and returns results** with minimal or no user intervention.

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⚙️ Workflow (Simplified Flowchart)

csharp

```
[User Uploads Dataset + Task]
            ↓
   [Preprocessing Engine]
            ↓
    [Auto Task Verifier]
            ↓
 [Model Selector + Trainer]
            ↓
    [Evaluation + Output]
            ↓
  [Download Model / Report]
```

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🧰 Suggested Tech Stack

Component	Tools/Libs
Language	Python
Backend (logic)	`scikit-learn`, `pandas`, `numpy`, `joblib`
AutoML Engines	`AutoSklearn`, `TPOT`, `H2O AutoML`, `PyCaret`
Optional UI	Streamlit or Flask
Visualizations	`matplotlib`, `seaborn`, `plotly`

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💡 Example Usage Scenarios

- A teacher can test models on student datasets for projects.
- A data analyst can test multiple models without writing code.
- Integrate into low-code platforms for startups or dashboards.

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📁 Folder Structure (Simple Version)

bash

```
auto_ml_pipeline/
│
├── app.py                # Main script or Streamlit app
├── preprocess.py         # Data cleaning functions
├── model_selector.py     # Logic for choosing/training models
├── evaluator.py          # Metrics and reporting
├── utils.py              # Helper functions
├── uploads/              # Uploaded datasets
├── models/               # Saved models
├── reports/              # Output reports
```

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