

# TailorML - Business Report

Date: 2025-06-20

## Objective

TailorML is a lightweight, interactive machine learning assistant built with Streamlit. It helps users upload tabular datasets, choose prediction columns, and get results from multiple ML models.

## Key Features

- Upload CSV via user-friendly interface
- Auto-target selection and type detection (classification or regression)
- Multiple model training with automatic best selection
- Performance comparison across models
- SHAP and LIME explainability visualizations
- Download predictions and PDF reports
- Google Gemini AI chatbot for business Q&A

## Technical Architecture

Frontend: Streamlit

Backend: scikit-learn

Visualization: SHAP, LIME, Matplotlib

AI Assistant: Google Gemini (generativeai)

Export: FPDF

## Supported Algorithms

Classification:

- Logistic Regression, Decision Tree, Random Forest
- KNN, Naive Bayes, Gradient Boosting, AdaBoost

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Regression:

- Linear Regression, Decision Tree, Random Forest
- Gradient Boosting, AdaBoost

## Explainability

TailorML uses SHAP and LIME for feature attribution, giving insights into global and local predictions.

## Privacy and Compliance

Data remains in-session only. No external storage unless exported manually. Gemini is optional.

## Business Recommendations

Best For: SMEs, Analysts, Instructors, Internal Data Teams

Not Ideal For: Real-time APIs or massive datasets (>100MB)

Future Ideas: Authentication, Cloud Storage, AutoML, Deployment Options

## Contact

For customization or enterprise integration, contact your data team or TailorML admin.