# Mental Health Survey Classifier – Project Documentation

## 1. Project Overview

This web-based application aims to provide users with an anonymous mental health self-assessment tool based on the PHQ-9 questionnaire. It uses a logistic regression classifier to evaluate potential signs of depression based on user input. The application is developed using Flask and integrates a custom machine learning model written in Python using NumPy.

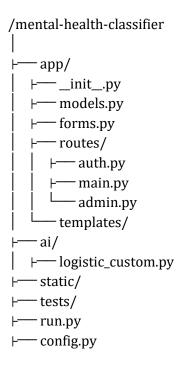
#### 2. Features

- User Authentication (Login/Register)
- Role-based access (User/Admin)
- PHQ-9 Survey Form (5 questions subset)
- Custom Logistic Regression Model
- AI-based mental health prediction
- Admin dashboard to manage users
- Profile editing (planned)
- Result sharing with user consent (optional)
- Custom error pages (planned)
- Responsive UI with Bootstrap 5

# 3. Technologies Used

- Python 3.x
- Flask
- Flask-WTF
- Flask-Login
- SQLAlchemy
- SQLite / MSSQL (via pyodbc)
- NumPy (for custom ML)
- Bootstrap 5
- HTML/CSS

## 4. Project Structure



## 5. Installation & Usage

- 1. Clone the repository.
- 2. Set up a virtual environment: python -m venv .venv
- 3. Activate the environment:
- Windows: .venv\Scripts\activate
- 4. Install dependencies: pip install -r requirements.txt
- 5. Configure database in config.py
- 6. Run the app: python run.py

#### 6. Al Model

The application uses a custom Logistic Regression model implemented in NumPy. The model is trained with dummy or user-provided PHQ-9-style data and used to predict binary outcomes (1 = signs of depression, 0 = no signs).

#### 7. Limitations & Future Work

- Currently using dummy data instead of real datasets.
- Needs proper model training and evaluation metrics (accuracy/confusion matrix).
- Missing unit tests.
- Email verification and profile page editing are not implemented yet.
- Admin UI could be expanded.
- No deployed version (localhost only).

## 8. Author & License

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