AI-Powered Food Waste Tracker with Chat Assistant

Introduction

Food waste is a major global issue. Our objective is to develop a smart system that helps users track and reduce food waste.

Key Features

- Food waste entry form
- Chatbot assistant (Claude / offline)
- Visual dashboards
- MongoDB backend

System Architecture

Streamlit frontend interacts with MongoDB for data, and with Claude API or local models for chatbot responses.

Workflow

User submits waste entry Data saved to MongoDB Assistant gives advice Dashboard updates with new trends.

Chatbot Modes

1. Online Mode: Claude API
2. Offline Mode: Rule-based or Transformer model

Can toggle modes based on user needs.

Technologies Used

- Python
- Streamlit

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- MongoDB
- Claude API / Transformers
- Plotly for visualizations

UI Screenshots

Includes:

- Waste entry form
- Dashboard with charts
- Chat interface

Results and Insights

User can track:

- Total waste
- Daily averages
- Category trends
- Get real-time tips to reduce waste.

Conclusion

A full-stack AI system that educates and assists users to waste less.

Future work includes login support, CSV export, and better NLP models.