# FWDM - Food Waste and Donation Matching

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**Problem Statement**

Tons of surplus food from events goes to waste daily, while many NGOs and individuals struggle with food scarcity. There's a lack of an intelligent, real-time system to match food donors with receivers based on need and proximity

**Proposed Solution & Mechanism**

We developed a Food Waste Matcher web app that predicts surplus food using ML and matches it with nearby NGOs.

- Suppliers enter event data → surplus is predicted

- Requesters input location and food need → matching suppliers are shown

- Geo-location and surplus similarity (±5kg, within 10 km) are used for matching

- OTP-based secure registration and real-time Firebase updates ensure smooth operation

**Tech Stack Used**

- Frontend & Logic: Streamlit (Python)

- Authentication & DB: Firebase (Auth + Realtime DB)

- ML Model: RandomForestRegressor (scikit-learn)

- Geolocation: geopy, Nominatim

- Email OTP: SMTP via smtplib

- Deployment: Streamlit Cloud

- Other Tools: GitHub, JSON, Pickle, Pandas