# AutoChef: Computer Vision for Automated Ingredient-to-Recipe Matching

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# The Team



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# Value Proposition

## Current problem

With leftover groceries, users experience friction in **1) identifying leftovers in their fridge,** and **2) finding suitable recipes.**

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## Key objectives

Users would like a one-stop-shop for their leftover cooking needs and recipe recommendations.
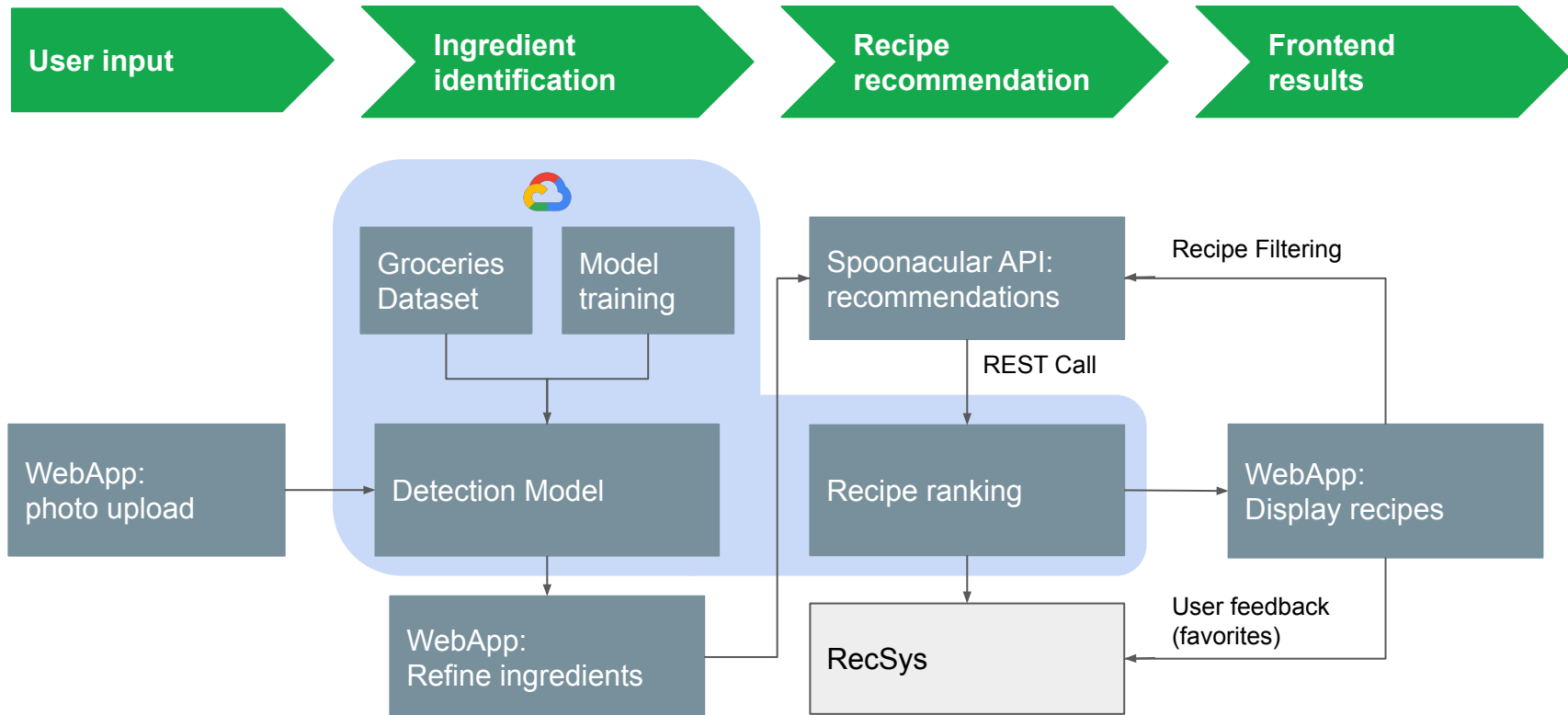
→

## Our proposed solution

**AutoChef**: A web application which automatically identifies ingredients with a single photo, and recommends recipes maximizing use of leftovers and tailoring to the user's preferences.
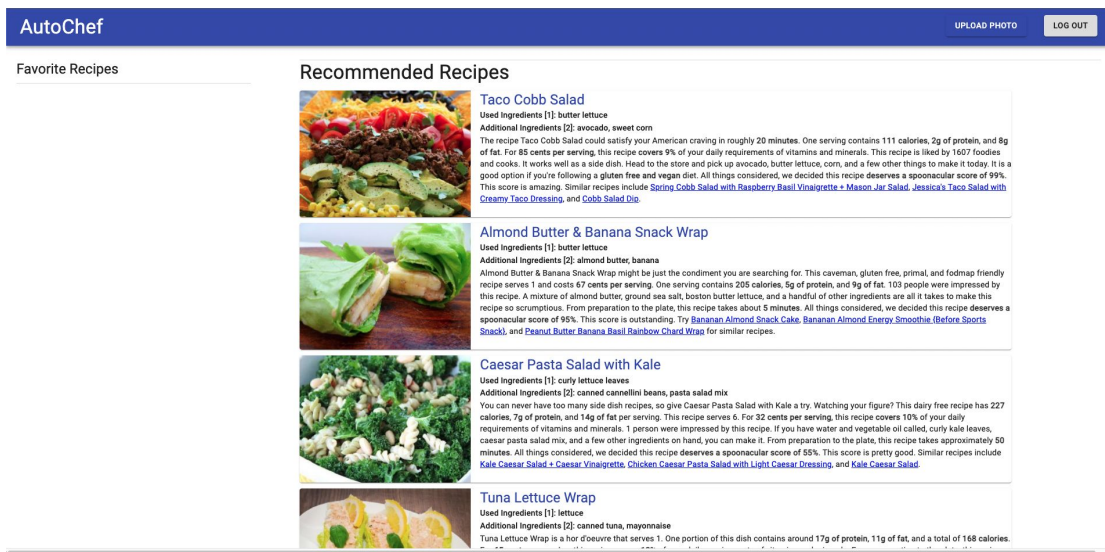
# System Layout

Current components
Future components

**User input** → **Ingredient identification** → **Recipe recommendation** → **Frontend results**

Groceries Dataset

Model training

Spoonacular API: recommendations

Recipe Filtering

REST Call

WebApp: photo upload

Detection Model

Recipe ranking

WebApp: Display recipes

WebApp: Refine ingredients

RecSys

User feedback (favorites)

# Initial iteration (MVP)

- ❖ Single ingredient detection only
- ❖ Cannot filter recipes beyond ingredient selection
- ❖ Lacks detailed recipe instructions

# Current iteration

- ❖ Allows for multiple ingredient detection in a single image
- ❖ Enables recipe filtering based on:
  - ➢ Cuisine (i.e. American, Thai, Japanese, French)
  - ➢ Dietary restrictions (i.e. vegetarian, vegan)
  - ➢ Specific intolerances (i.e. dairy, egg, seafood)
  - ➢ Type of dish (i.e. main course, appetizer, dessert)
- ❖ Supports detailed recipe instructions

# Live Demo

Code: https://github.com/sharanramjee/AutoChef