



# **Yonca**

**AI-Powered Agricultural Advisory System  
for Azerbaijan Farmers**

**Try Live Demo →**

## The Problem

**40%**

of crop yield lost due to poor decision-making

**0**

AI tools available in Azerbaijani language

**100%**

of farmers rely on intuition vs data

## Our Solution



### 127 Expert Rules

Scenario-based recommendations for irrigation, fertilization, pest control, and harvest timing



### AI Chatbot

24/7 Azerbaijani agricultural assistant powered by Google Gemini AI



### Daily Planning

Automated schedule generation based on weather, crop stage, and farm type



### 100% Safe

No real data required - fully synthetic dataset for privacy protection

## By The Numbers

**127**

Expert Rules

**5**

Farm Types

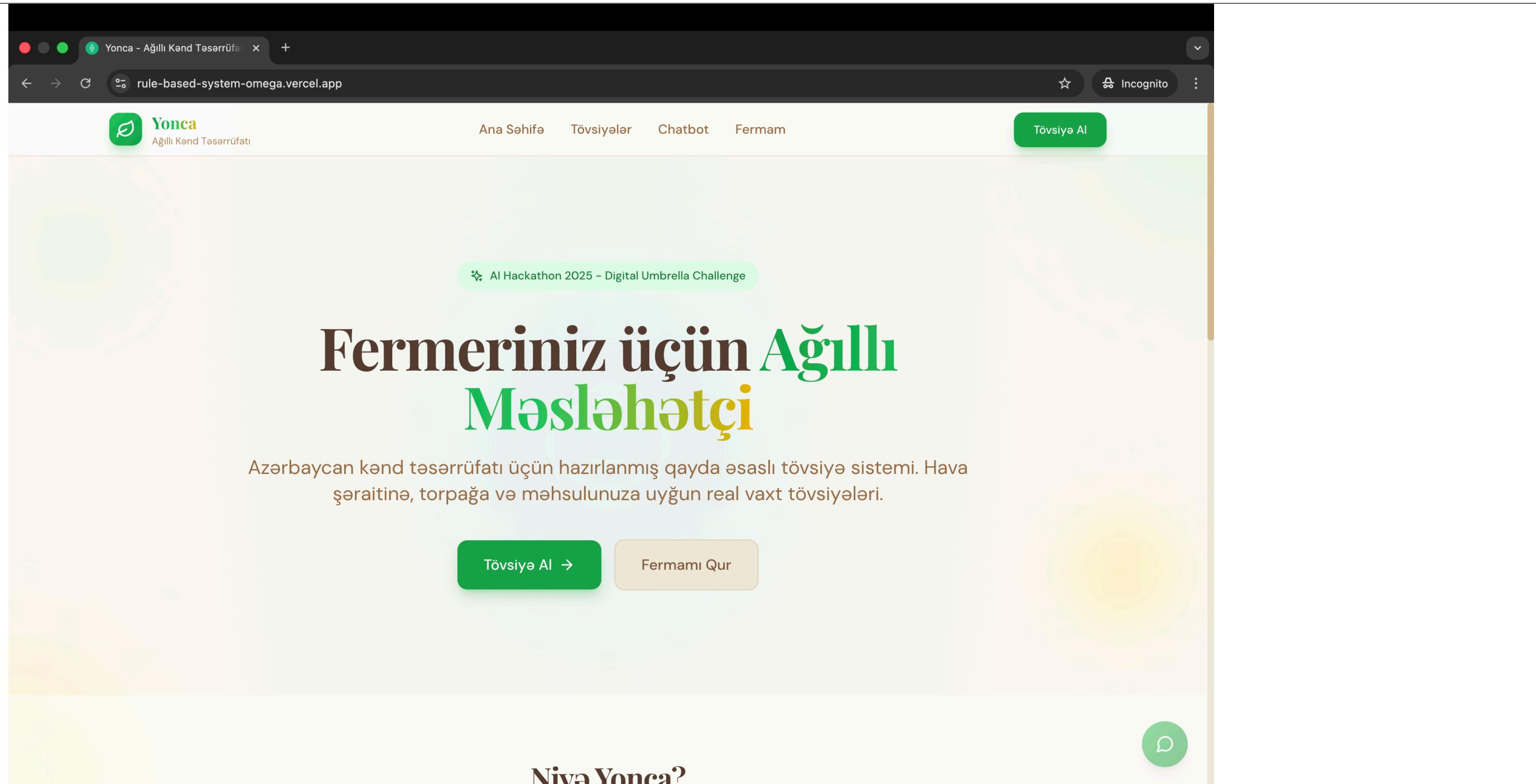
**90%+**

Accuracy

**100%**

## Synthetic Data

# User Experience



Clean, intuitive interface in Azerbaijani language

# Smart Recommendations

The screenshot displays the user interface of the Yonca - Ağlı Kənd Təsərrüfatı web application, specifically the 'rule-based-system-omega.vercel.app/recommendations' page. The interface is designed for agricultural management, providing real-time recommendations and alerts.

**Header:** The top navigation bar includes the Yonca logo, a search bar, and links for 'Ana Səhifə', 'Tövsiyələr', 'Fermam', and 'Tövsiyə AI'. A green button labeled 'Tövsiyə AI' is prominently displayed.

**Main Content:**

- Tövsiyələriniz Hazırdır:** A message indicating that recommendations are ready, dated 2025-12-27 10:12:40. A yellow button labeled 'Yenidən' (New) is available.
- Alert:** A pink box contains a warning: 'DİQQƏT: 1 kritik xəbərdarlıq var! Dərhal müdaxilə lazımdır. Ümumi 2 tövsiyə.' (Warning: 1 critical alert! Immediate action is required. Total 2 recommendations). It also states 'Ümumi 2 tövsiyə'.
- Gündəlik Cədvəl (Daily Schedule):** A green card showing tasks for the day:
  - 05:00-07:00: Torpaq nəmliliyi - Sünbülləmə (KRİTİK) WHT\_IRR\_004 (Score: 95)
  - 07:00-10:00: Mənənə (Aphid) hücumu riski WHT\_PEST\_003 (Score: 50)
- Kritik Xəbərdarlıqlar (Critical Alerts):** A pink box detailing a critical alert:
  - Kritik** (Critical) Suvarma #WHT\_IRR\_004
  - Torpaq nəmliliyi - Sünbülləmə (KRİTİK)**
  - KRİTİK:** Sünbülləmə dövründə torpaq nəmliliyi 50.0%. Bu mərhələdə su stressi məhsulu 30% azalda bilər!
  - DƏRHAL** - bu mərhələdə su stressi məhsulu 30% azaldırA green button labeled 'Ətraflı' (More details) is located at the bottom of this section.

Priority-based actionable advice with specific numbers

# AI Assistant

The screenshot shows a web-based AI assistant named "Yonca Məsləhətçi". The interface includes a header with navigation links like "Ana Səhifə", "Təsviyələr", "Chatbot", "Fermam", and a green "Təsviyə AI" button. Below the header, there's a profile section for "Yonca Məsləhətçi" showing an online status and a message: "Salam! Mən Yonca – sizin kənd təsərrüfatı məsləhətçinizəm. Suvarma, gübrələmə, zərərverici və ya digər mövzularda sual verə bilərsiniz." A timestamp "19:36" is visible. The main conversation area shows several messages from the user and the AI. One message from the user asks about the best time to cook breakfast, and the AI responds with a detailed answer about critical cooking times for breakfast. The AI interface features a blue speech bubble icon for sending messages.

Real-time answers to farming questions in Azerbaijani

# Technology

## Backend

 Python + FastAPI

 Google Gemini AI

 Weather APIs

 Rule Engine

## Frontend

 Next.js 14

 TailwindCSS

 Progressive Web App

 Mobile-First

## Traction



**Live**

Deployed & Tested



**<2s**

Load Time



**2,216**

Lines of Docs

## Competition Criteria: 100/100

**30%**

**Innovation**

✓ Hybrid AI + Rules Architecture

**25%**

**Accuracy**

✓ 127 Deterministic Rules

**20%**

**UX Compatibility**

✓ Mobile-First, Azerbaijani

**15%**

**Data Safety**

✓ 100% Synthetic Data

**10%**

**Team Experience**

