IBM SkillsBuild Project

Aug 07, 2025

PROBLEM

1. Late identification of groundnut leaf diseases
2. Inaccurate manual diagnosis
3. High crop loss and pesticide overuse

SOLUTION

AI-powered deep learning model that classifies groundnut leaf diseases early using image data and provides instant feedback.

UNIQUE VALUE PROPOSITION

Affordable, easy-to-use AI tool that enables early disease detection, helping farmers increase yield and reduce chemical use.

UNFAIR ADVANTAGE

1. Custom-trained model on regional data.
2. Deployed interface designed for low-tech access.
3. Field-tested real image dataset.

CUSTOMER SEGMENTS

Primary: Smallholder groundnut farmers.

Secondary: Agricultural extension workers, NGOs in agriculture, agri-tech startups.

EXISTING ALTERNATIVES

1. Manual visual inspection by farmers.
2. Agricultural officers (limited access).
3. Expensive lab testing.

KEY METRICS

1. Model Accuracy (>90%)
2. Number of active users
3. Reduction in pesticide use

4. Crop yield improvement.

HIGH-LEVEL CONCEPT

CHANNELS

1. Mobile App/Web App
2. Agricultural camps & NGOs
3. Government rural initiatives
4. Local agri-input shops.

EARLY ADOPTERS

1. Tech-aware small farmers.
2. NGO-supported rural communities.
3. Agricultural college pilot programs.

COST STRUCTURE

1. Model training (GPU, data labeling).

2. App development and maintenance.

3. Outreach and deployment.

4. Cloud/server hosting.

REVENUE STREAMS

1. Government/NGO grants.

2. SaaS model for agri-startups.

3. CSR partnerships.

4. Consulting for other crop models.