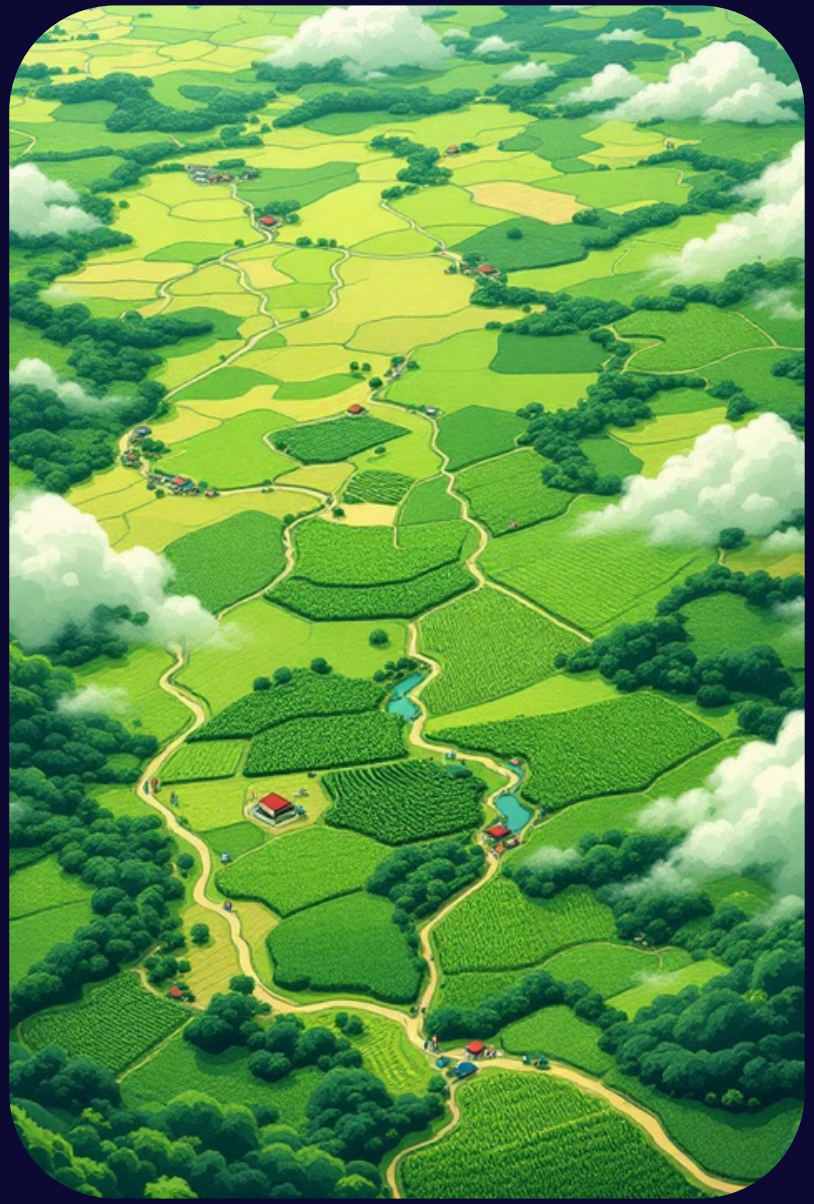


AgroSat AI

AI-powered satellite cropmonitoring platform that predicts crop threats before they destroy yield

The Problem

Kazakhstan ranks 5th globallyin wheat

exports, yet faces critical challenges in crop protection and yield optimization.

Current Pain Points

- Farmers detect drought conditions too late to prevent damage
- Plant diseases identified only after significant yield loss
- Manual field inspections require weeks and high costs
- Insurance companies lack objective damage verification
- Government has no real-time visibility into harvest forecasts

Result: Billions of tenge in annual losses

Why Now

Climate Crisis

Acceleratingclimatechanges increase crop threat frequency and severity

Free Data

Sentinelsatellites provide free, high-frequency imagery globally

AI Accessibility

Machine learning models now accessible to startups without massive infrastructure

Market Growth

AgriTech marketexpanding rapidly with proven ROI for precision agriculture

Our Solution

1

Farm Registration

Farmersinputfieldcoordinates through intuitive web/mobile interface

2

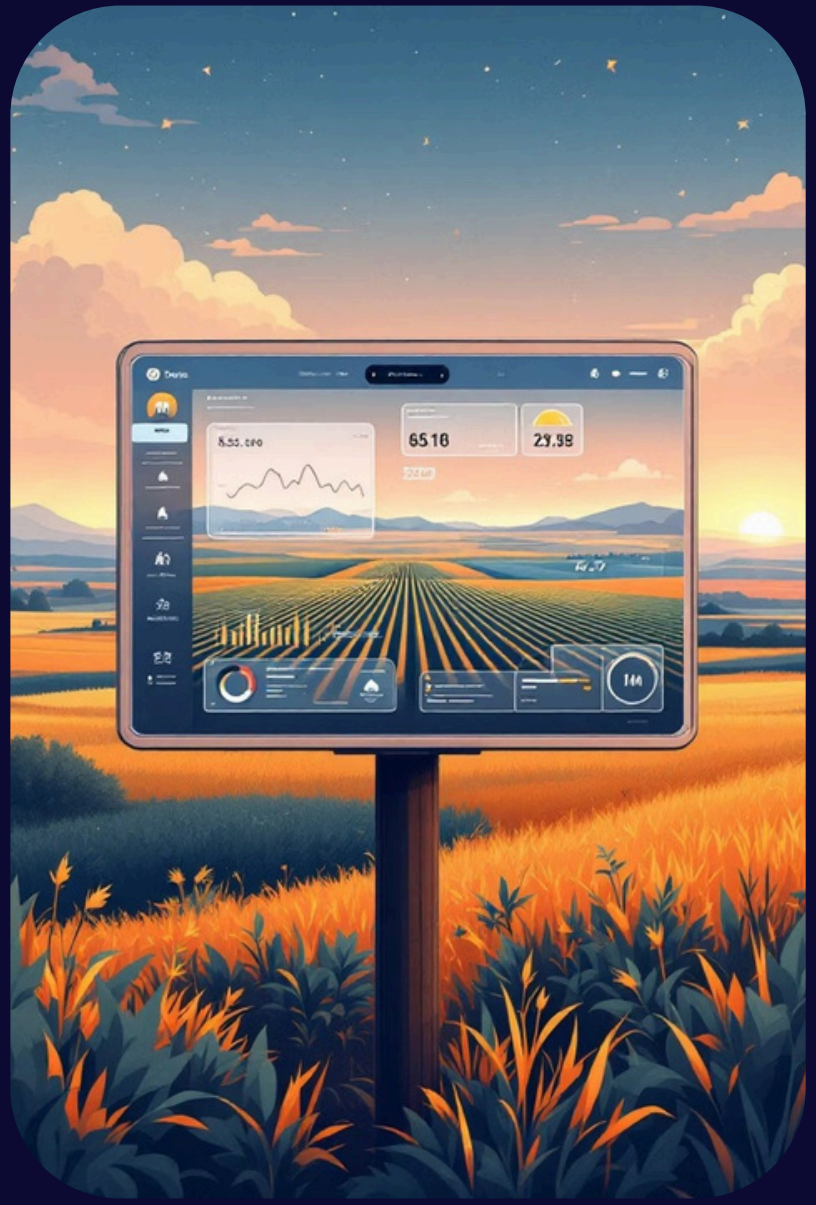
AI Analysis

Platform automatically processes latest satellite imagery with ML models

3

Alert Delivery

Real-time health maps and threat notifications delivered instantly



How It Works

Data Layer

Sentinel-2 Satellite

ESA satellite providing multispectral imagery

5-Day Updates

Revisit frequency ensures timely threat detection

Free Data Access

Access via Copernicus/Sentinel Hub API

NDVI Technology

Vegetation Index Formula

$$NDVI = \frac{NIR - RED}{NIR + RED}$$

Near-Infrared and Redspectral bands calculate plant health

Interpretation

- **0.8–1.0:** Healthy vegetation
- **0.2–0.5:** Plant stress
- **< 0:** Water/snow coverage

AI Model

01

Data Collection

Gather multispectral satellite bands (NDVI, NDWI, EVI indices)

02

Feature Engineering

Calculate vegetation and wateri ndices for comprehensive analysis

03

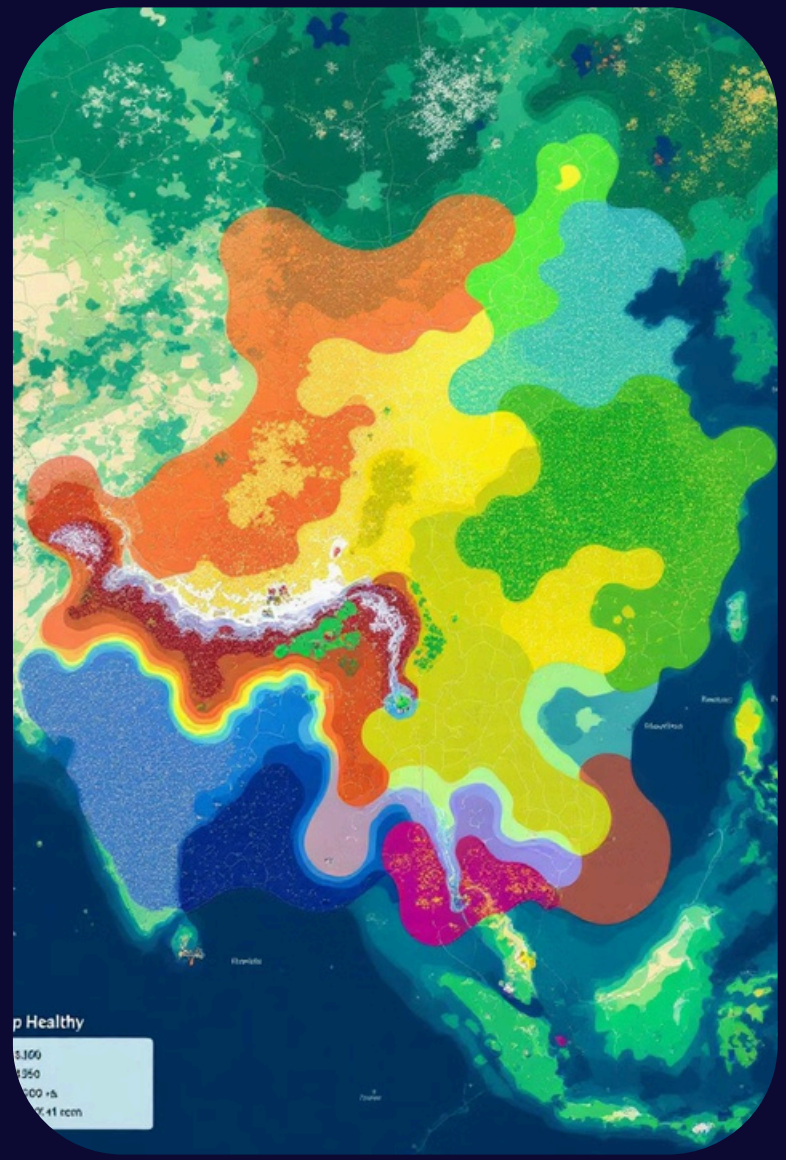
Classification

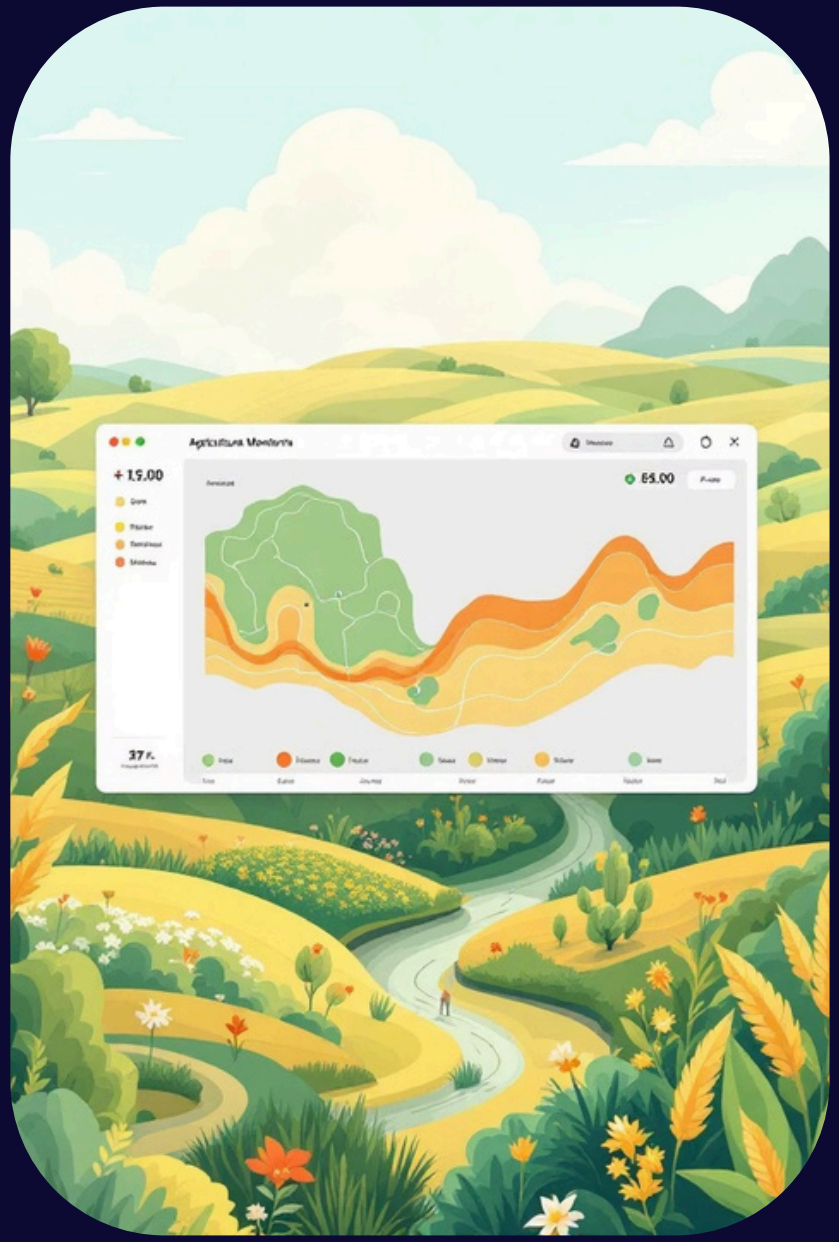
Random Forest algorithm identifies crop health conditions

04

Prediction

Model out puts probability scores for drought, disease, flooding





Visualization

Green

Healthy crops with optimal vegetation index

Yellow

Early stress detection requiring attention

Red

Critical threats demanding immediate action

Market Opportunity

$3B

Kazakhstan Agri Market

Total addressable market for wheat and grain production

$22B

Global AgriTech Market

Projected market size by 2025 according to industry reports

25%

Annual Growth

AgriTech sector expansion rate in emerging markets

Business Model

B2C Farmers

Monthly subscription model for individual farmers managing 50-500 hectares

B2B Agroholdings

Enterprise plans for large-scale operations with custom integrations

B2G Government

National monitoring contracts for harvest forecasting and food security

B2B Insurance

Objectiveclaims verification services reducing fraud and processing costs