

PadiChat: Your friendly farming assistant – in your pocket, in your language.

Urgent AI Agent for Southeast Asia's Smallholder Farmers

Team Algent · Nebius x TGB AI Agents Hackathon

 by Dylan



The Real Problem

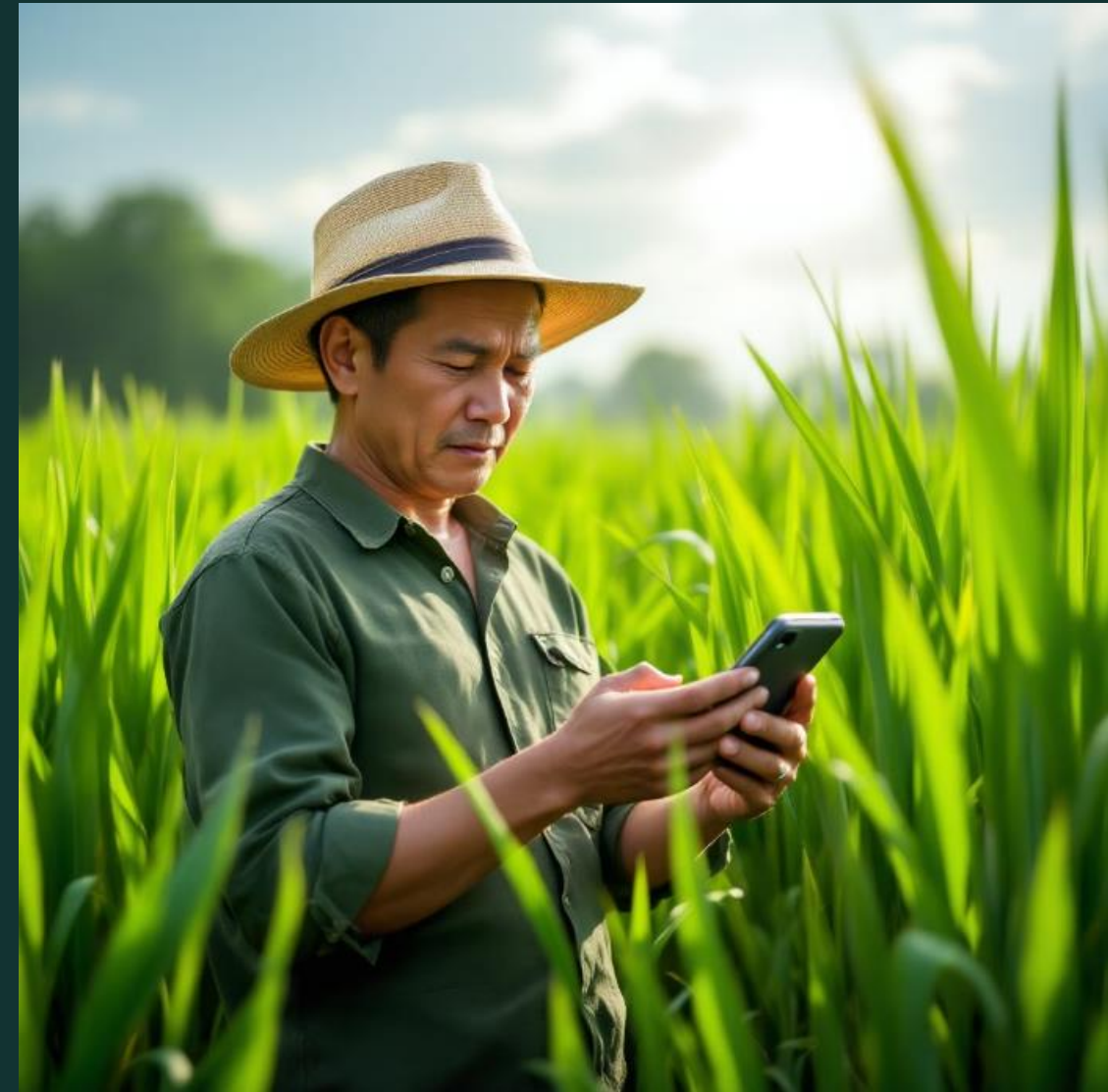
Access to intelligence, not devices, is the issue

Despite high smartphone and internet penetration (88.9%+ across SEA),

Millions of farmers still lack expert help on pests, weather, and market access, with 60% of farmers in SEA having no schooling

- Advice is fragmented, unreliable, or simply unavailable in rural areas.
- Searching online isn't personalized, especially across languages or dialects.
- Delays in action cause real crop losses.

The problem is in access to intelligence and help in an easy to interact and use platform



The Solution – PadiChat



Send crop photos to
Get instant disease checks



Ask about rain
Get hyperlocal weather
updates



Unsure who to reach
out to?

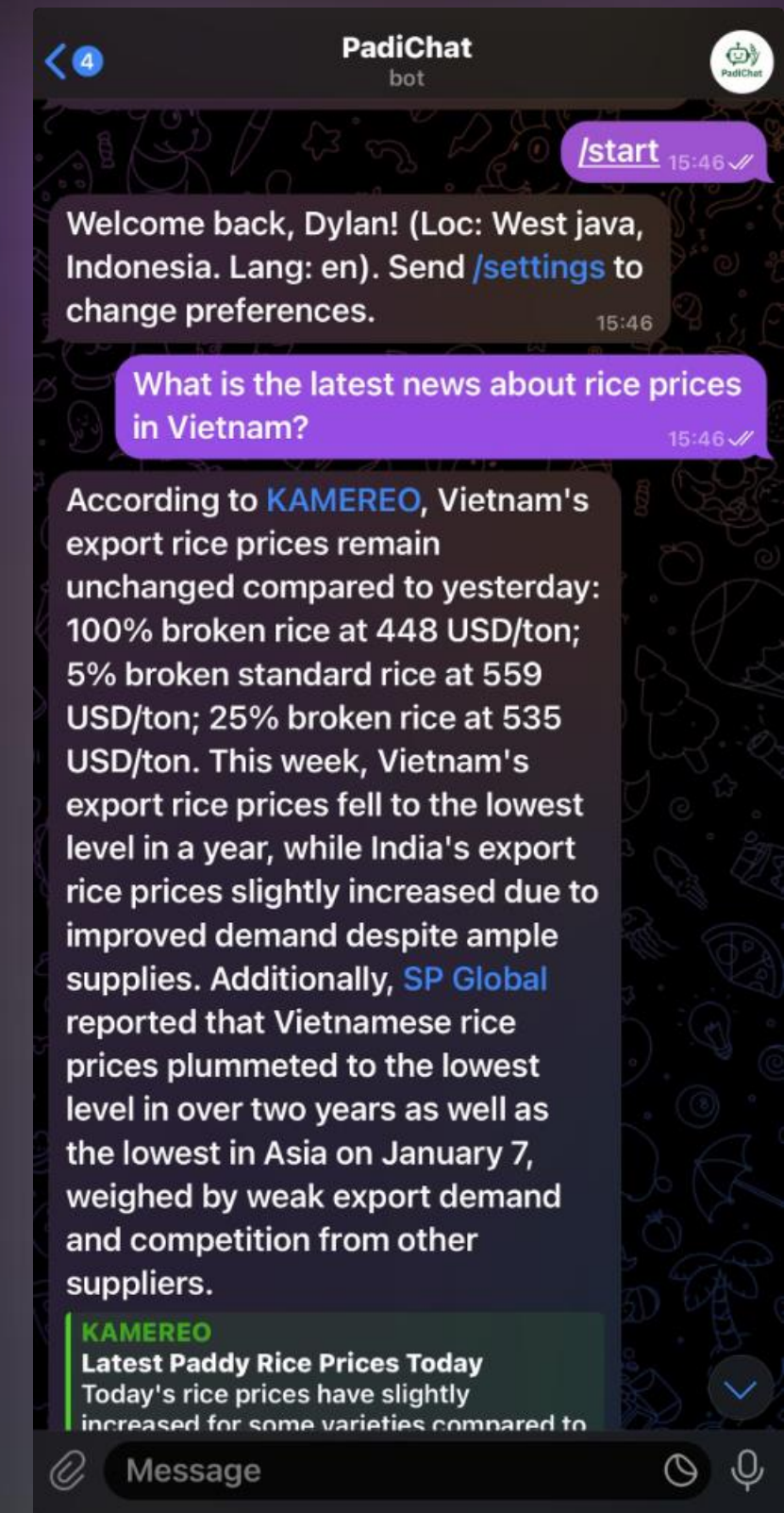
Get connected to relevant
local authorities



Personalized
Language

Supports chat in 6+ native
Southeast Asian languages

A conversational AI agent on Telegram that farmers can use for personalized assistance. Multilingual. Lightweight. Always-on. No installs. Just chat.



Why It's Innovative

Multimodal, agentic AI

🌟 Vision + Chat + Tools = Multimodal, agentic AI built for real-world use

Context-aware

📍 Remembers language, location, even crop types

Built for accessibility

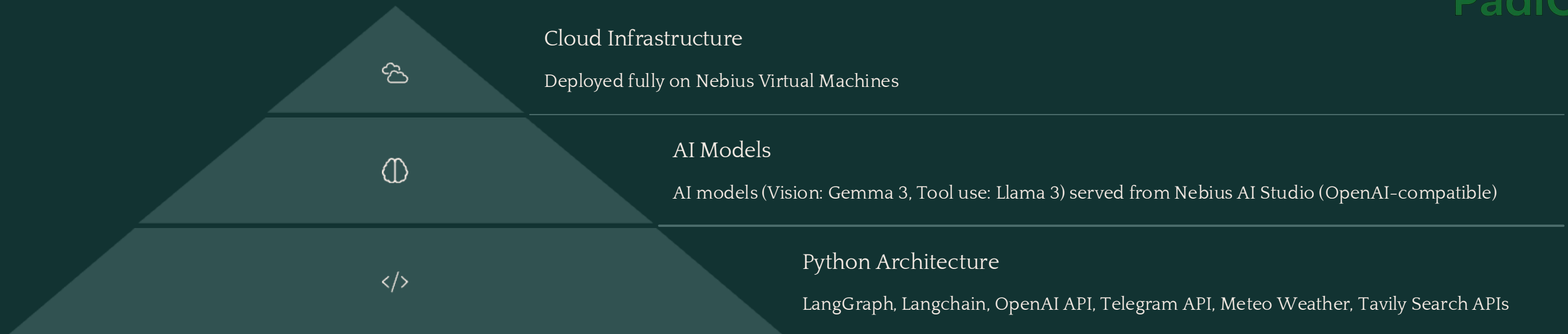
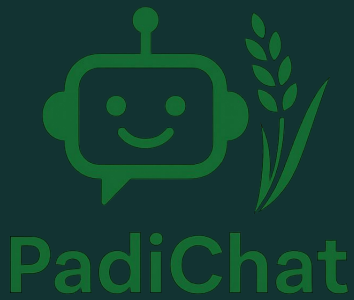
🌱 Built for low-literacy, low-bandwidth environments

Extensible

🔄 Add subsidy lookups, market pricing, and voice chat next



Technical Backbone – Powered by Nebius



Our tech is cloud-native and scalable by design.

Architecture Highlights:

- 🧠 LangGraph, Langchain: Manages agent state, tool orchestration, and conversation memory
- Nebius AI Studio: State of the art models with an easy to use API, amazing fast speed with –fast models
 - 📷 Gemma 3. 27B Fast: Multimodal LLM for crop photo diagnosis
 - 🔥 Llama 3.1 70B Instruct Fast: Handles natural conversation + tool usage
- ☀️ Integrated APIs: Open-Meteo for weather, Tavily Search for real-time info
- Nebius AI Cloud: Reliable H100 powered machine for hosting application, LLM serving and finetuning possible

This is not a demo. It's a deployable system. Nebius made it possible.



Demo Preview

Ask "What's wrong with my plant?" with a photo

Bot replies with diagnosis + fix

"Where do I get local subsidies?"

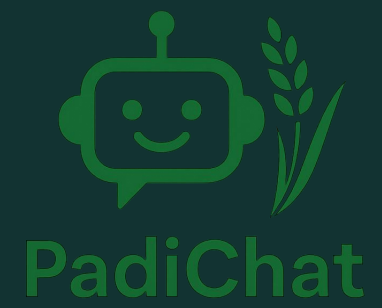
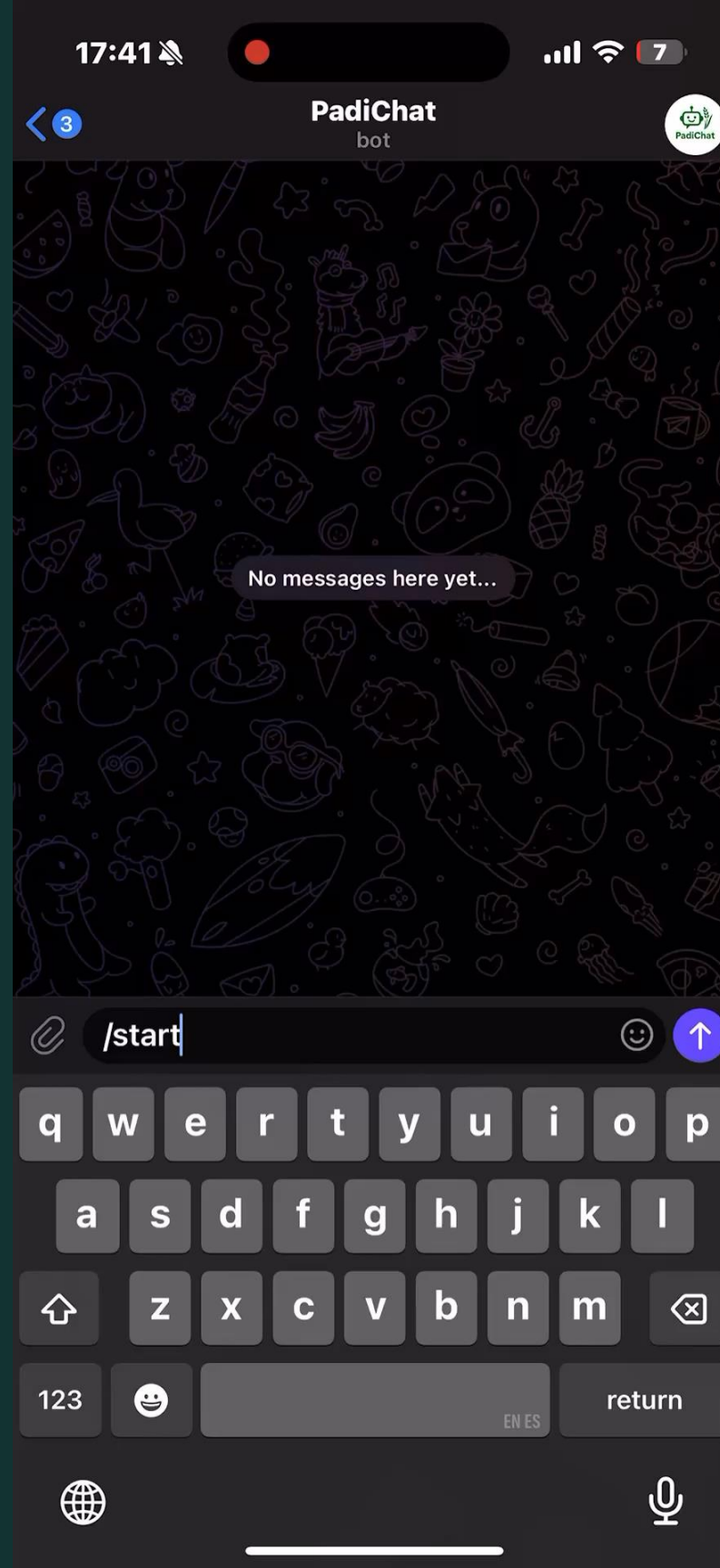
List of contacts in local language



Then ask "Will it rain this week?"


Hyperlocal forecast provided in under 5 seconds

 Telegram walkthrough: It's intuitive, natural, and empowering.





What's Next?



Better models

 Fine tune bigger and more performant multilingual models with crop diseases, local languages and better tool use


Enhance Accessibility

-  Add voice support for low-literacy users, Speech to Text and Text to Speech
-  Expand to other regional chat applications
- Whatsapp, FB Messages
 - Line, Kakao

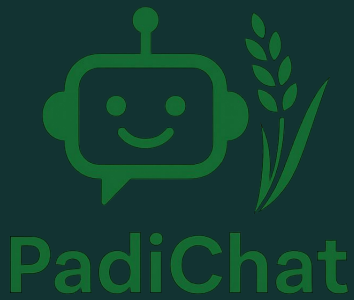
Improve Data Sources

-  Plug in real-time pest updates and computer vision disease models
-  Add integration to co-ops & agri marketplaces

Scale Globally

-  Expand to other regions, crops, and languages

Scalable Impact



Pilot Program
Initial deployment with select
farmer groups

Partnership Network
Connect with agricultural
ecosystem



Data Collection

Improve models with real-world
usage

Regional Expansion

Adapt to new crops and languages

PadiChat can scale from pilot to platform.