



CELESTINE

Intelligent Navigator for the Universe & Earth

Powered by Gemini, Google Maps Platform & Google Cloud

by Vero Code





Problem: STEM Education is Static

Addresses UN SDG 4 (Education), 9 (Innovation), 10 (Reduced Inequalities), 13 (Climate Action), 15 (Life on Land).

The Knowledge Barrier (SDG 4, 10)

High-quality planetary data is often expensive or siloed within expert institutions. This creates a massive barrier for students in underserved regions, limiting STEM equity.

The Visualization Gap (SDG 9)

Students struggle to visualize complex cosmic data through legacy tools. "Space Mode" features have faded into non-interactive, static images, leaving a gap between raw NASA data and real-world understanding.

Fragmented Stewardship (SDG 13, 15)

Without a cosmic perspective, the fragility of Earth's atmosphere remains abstract. Existing tools fail to show our planet as a finite system, leading to a disconnect from global environmental responsibility.





Celestine: An Intelligent Co-Pilot

Environmental Synergy

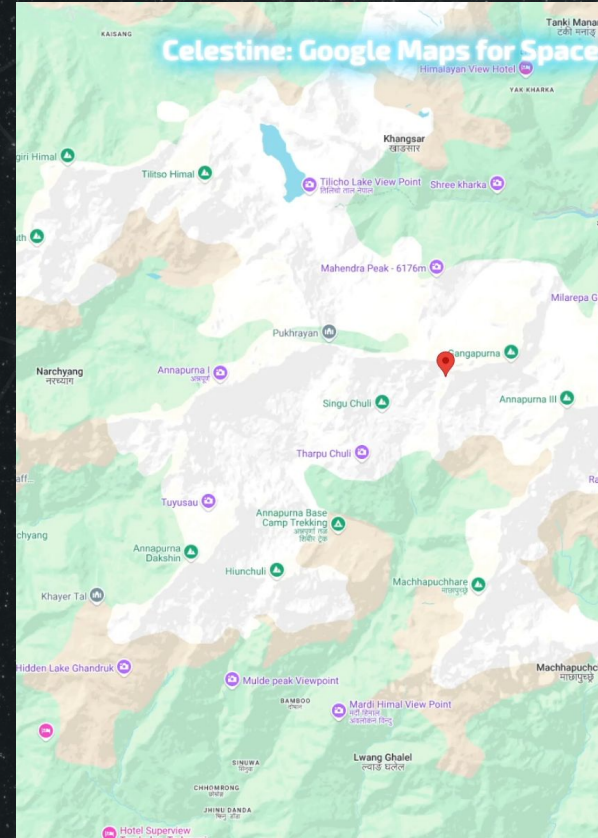
We use the cosmos as a mirror to study Earth's climate and geological challenges. By identifying terrestrial counterparts to alien features, we turn space exploration into a **Climate Action tool**.

Intelligent Reasoning

Beyond reciting facts, Gemini analyzes complex structures—like Martian shield volcanoes—and uses the **Google Places API** to find their exact counterparts on Earth (e.g., Mauna Kea).

The Loop

A seamless connection between alien worlds and our reality, making cosmic exploration deeply personal and interactive.



Space AI Agent

You:
Go to Moon.

Agent:
Initiating landing sequence for Moon. Stand by.

You:
I'm looking at Olympus Mons on Mars. It's a Shield Volcano. The description says: "The largest volcano in the Solar System, a huge shield volcano". Based on this, what are some of its analogues on Earth?

Agent:
Based on the features of Olympus Mons, a notable Earth analogue is Medicine Lake in California, which is also a shield volcano.

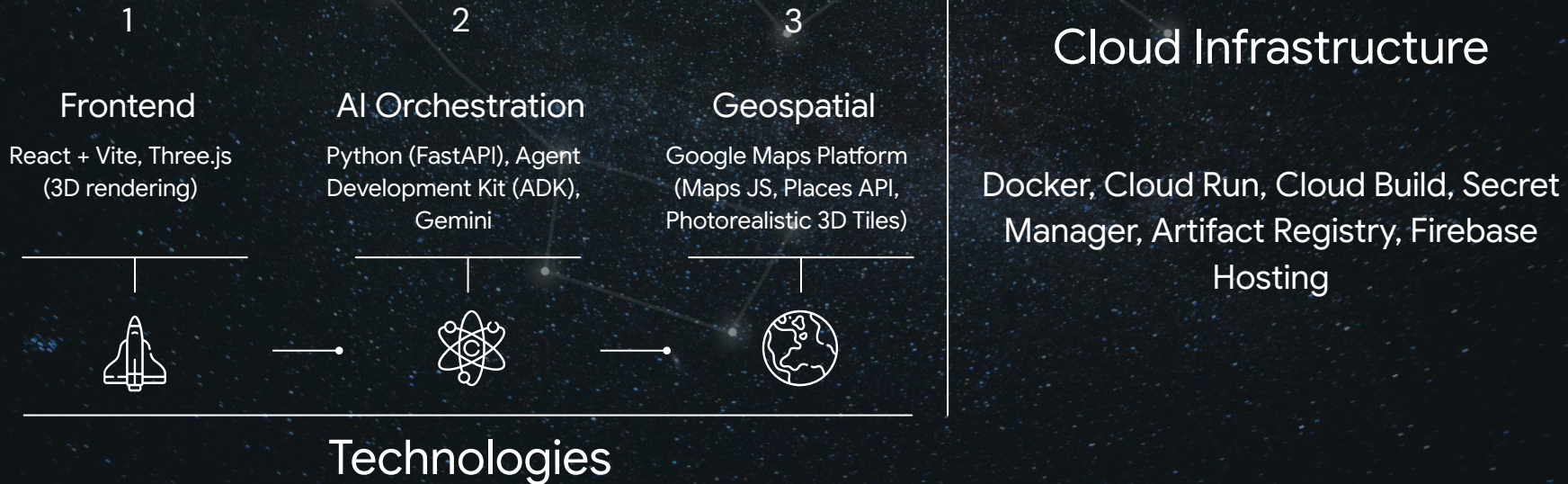
You:
I'm looking at Maxwell Montes on Venus. It's a Mountain Range. The description says: "The highest mountain range on Venus, possibly formed by tectonic processes". Based on this, what are some of its analogues on Earth?

Agent:
Based on the description of Maxwell Montes as a large mountain range formed by tectonic activity, the Himalayas are a good Earth analogue. They are the highest mountain range on our planet, formed by the collision of the Indian and Eurasian tectonic plates.



Google Cloud-Native Architecture

Carbon-Efficient Deployment: Built on Google Cloud Run for elastic scalability and near-zero idle energy consumption, ensuring a sustainable digital footprint.



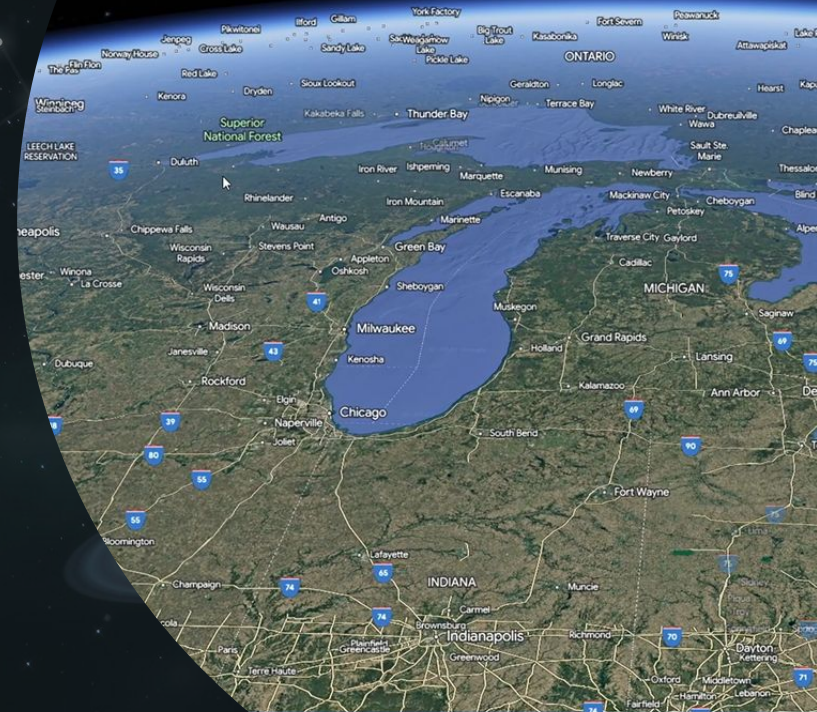


Impact & Vision

- **Democratizing Knowledge:** Turning petabytes of raw astronomical data into accessible, localized storytelling for the next billion explorers.
- **Global Infrastructure:** Our agent-based architecture on Cloud Run is engineered for elastic scalability, ready to serve students worldwide with zero latency.
- **Scalable Business Model:** Empowering local STEM centers and educators with a low-cost digital platform that eliminates the need for expensive physical laboratories.
- **Fostering Stewardship:** By highlighting Earth's unique habitability through planetary comparison, we inspire the next generation to protect global ecosystems (SDG 15).
- **Future Horizon:** Integrating Google Earth Engine data overlays to track real-time climate shifts across terrestrial analogues.

Celestine: Google Maps for Sp

"It's a map. It's a guide. It's the start of humanity's new interface with the cosmos."





Nominee: Google Maps Platform

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Celestine

By Veronika Kashtanova

See in devpost Share

Category: AI

Key Features: Maps JavaScript API, Places API, Gemini API, +8

Inspired by Google's past "Space Mode" experiments, this project revives the dream of cosmic exploration with an intelligent co-pilot for the Solar System. It aims to make space personal, interactive, and intelligent, moving beyond static images to offer a dynamic journey through the cosmos.

Starting as a 3D solar system viewer, the application evolved into a multi-modal, AI-driven exploration platform. It allows users to navigate a 3D model of the solar system, "land on" planets to view points of interest, and engage with an AI agent via text, voice, or video. A key innovative feature is the AI's ability to use Google Maps Platform tools: when a user clicks a celestial point of interest, the AI identifies terrestrial analogues using the Places API, displaying them on an interactive 2D Earth map to connect alien worlds to our reality.





Recognition



1. Member of Google for Startups Cloud Program
2. Nominee: Google Maps Platform Challenge
3. Featured Project on DEV.to Community:
 - > 3k views on X post
 - > 400 views on dev.to post

Thanks! Do you have any questions?
contact@vero-code.website

DEV DEV Community 
@ThePracticalDev

Celestine: An AI Navigator for the Universe. Explore planets in 3D and "land" on them using Gemini and Google Maps.

An entry for DEV's Worldwide Show and Tell Challenge Presented by [@MuxHQ](#)

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From dev.to

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