ASTRO MATIAS

"Discover life beyond Earth with your AI space voice assistant."

Team Name:
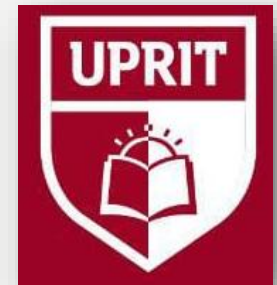**UPRIT-SENATI**
Team Members:
Charlen Maximo Calero Huaman
Challenge:
Build a Space Biology Knowledge Engine

The Challenge

NASA invited us to create an AI engine capable of exploring and learning from open data on space biology.

Our mission: make complex space biology research accessible, interactive, and inspiring for students worldwide.
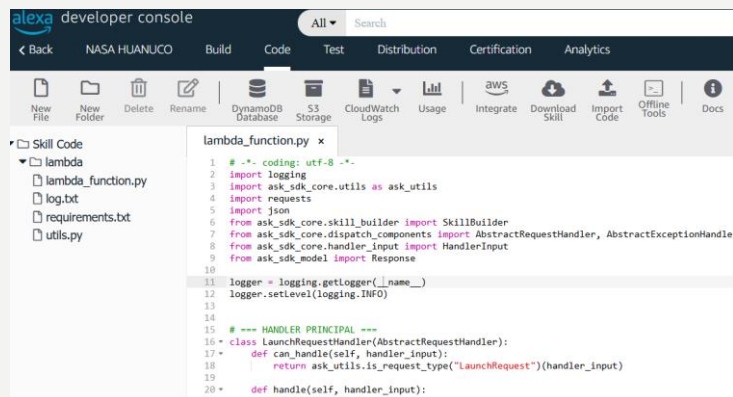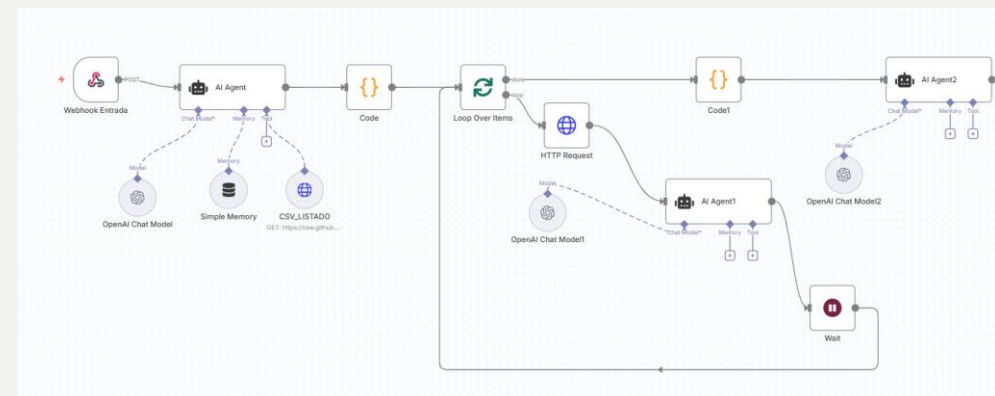
Our Solution: ASTRO MATIAS

ASTRO MATIAS is an intelligent agent trained on 600 scientific papers about space biology.

The data is stored in a Qdrant vector database, enabling fast, semantic search through embeddings.

This system allows natural language conversations with Alexa — making learning fun and accessible.

User Experience

Students can ask ASTRO MATIAS questions like:
"Alexa, ask Astro Matias how plants grow in microgravity."

The AI retrieves answers from scientific papers and explains them simply.

This makes complex research understandable and engaging for young learners.
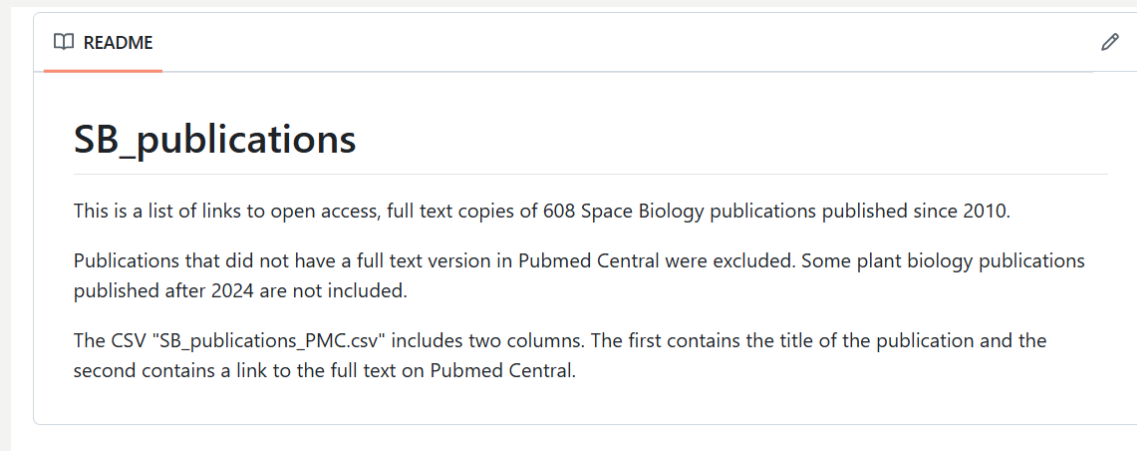
Powered by NASA Open Data

The project uses open datasets from NASA and other space biology repositories.

Using AI embeddings and vector databases, we bring this scientific knowledge to voice-enabled interfaces.

NASA's open data made it possible to connect AI and education.

README

SB_publications

This is a list of links to open access, full text copies of 608 Space Biology publications published since 2010.

Publications that did not have a full text version in Pubmed Central were excluded. Some plant biology publications published after 2024 are not included.

The CSV "SB_publications_PMC.csv" includes two columns. The first contains the title of the publication and the second contains a link to the full text on Pubmed Central.

Impact and Future Vision

ASTRO MATIAS democratizes access to space biology knowledge.

It inspires curiosity, supports science education, and encourages young minds to explore the universe.

Our vision: an intelligent companion that connects humanity and space research.