HESOYAM

NASA BIOSCIENCES
INTELLIGENCE DASHBOARD

BUILD A SPACE BIOLOGY KNOWLEDGE ENGINE

CONTEXT

DECADES OF BIOLOGY EXPERIMENTS IN SPACE

THOUSAND OF TECHNICAL, DENSE PAPERS

PUBLIC ACCESS IS DIFFICULT; NON-EXPERTS STRUGGLE TO INTERPRET DATA

PROBLEM

VALUABLE KNOWLEDGE IS SCATTERED ACROSS COMPLEX PAPERS

HARD TO ANSWER QUESTIONS AUTOMATICALLY OR IN PLAIN LANGUAGE

LIMITS PUBLIC ENGAGEMENT AND EDUCATION IN SPACE BIOLOGY

SOLUTION

AI-POWERED CHATBOT THAT ANSWERS QUESTIONS

USES VALIDATED NASA RESEARCH PAPERS ONLY

PROVIDES CLEAR, UNDERSTANDABLE ANSWERS WITH REFERENCES TO ORIGINAL STUDIES

ROADMAP

1. SCRAPER: AUTOMATICALLY COLLECTS NASA PAPERS
2. VECTOR DATABASE: INDEXES CONTENT FOR SEMANTIC SEARCH
3. AGENTIC RAG + GPT MODEL: GENERATES CONTEXT-AWARE, CLEAR RESPONSES
4. FRONTEND INTERFACE: SHOWS ANSWER RELEVANCE AND ALLOWS VIEWING ORIGINAL PAPERS RELATIONS

BENEFITS & IMPACT

BENEFITS

- Makes complex research accessible
- Provides reliable, verified information
- Saves time for researchers, students, and space enthusiasts

IMPACT

- Democratizes space biology knowledge
- Enhances education, outreach, and informed decision-making
- Encourages public engagement with space science

ARCHITECTURE OVERVIEW