Orbit Snap: A NASA Space Mission AI Application by Cassy Cormier

Project Overview

Purpose: Making NASA's visual data more accessible and searchable using AI

Tech Focus: Automating data retrieval, summarization, and keyword tagging

Link to Project

prescottcassy/NASA-Space-Mission-AI-App: AI-powered NASA image explorer — summarizes space data, extracts keywords, and visualizes mission data in real time.

Core Technologies Used

Streamlit: For an interactive front-end interface

NASA APOD API: Real-time image and metadata source

NLP Libraries: Hugging Face, spaCy for summarization and keyword extraction

Custom Error Handling: Reusable modules for clean debugging

Modular Code Architecture

Separation of Concerns: API fetcher, NLP processor, README, requirements.txt, error handlings, etc.

Comments & Commits: Clear commenting and commit summaries for collaboration

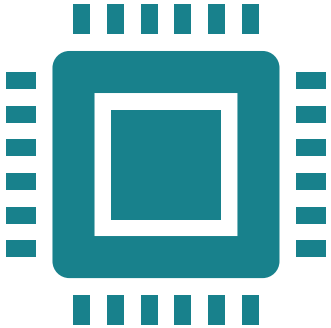
AI Features

Concise image caption summarization

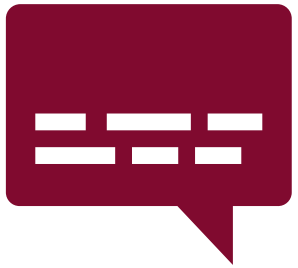
Auto keyword tagging for improved indexing and insight

Extensible NLP pipeline for future datasets

Output & Visualization



Responsive image display with use_container_width



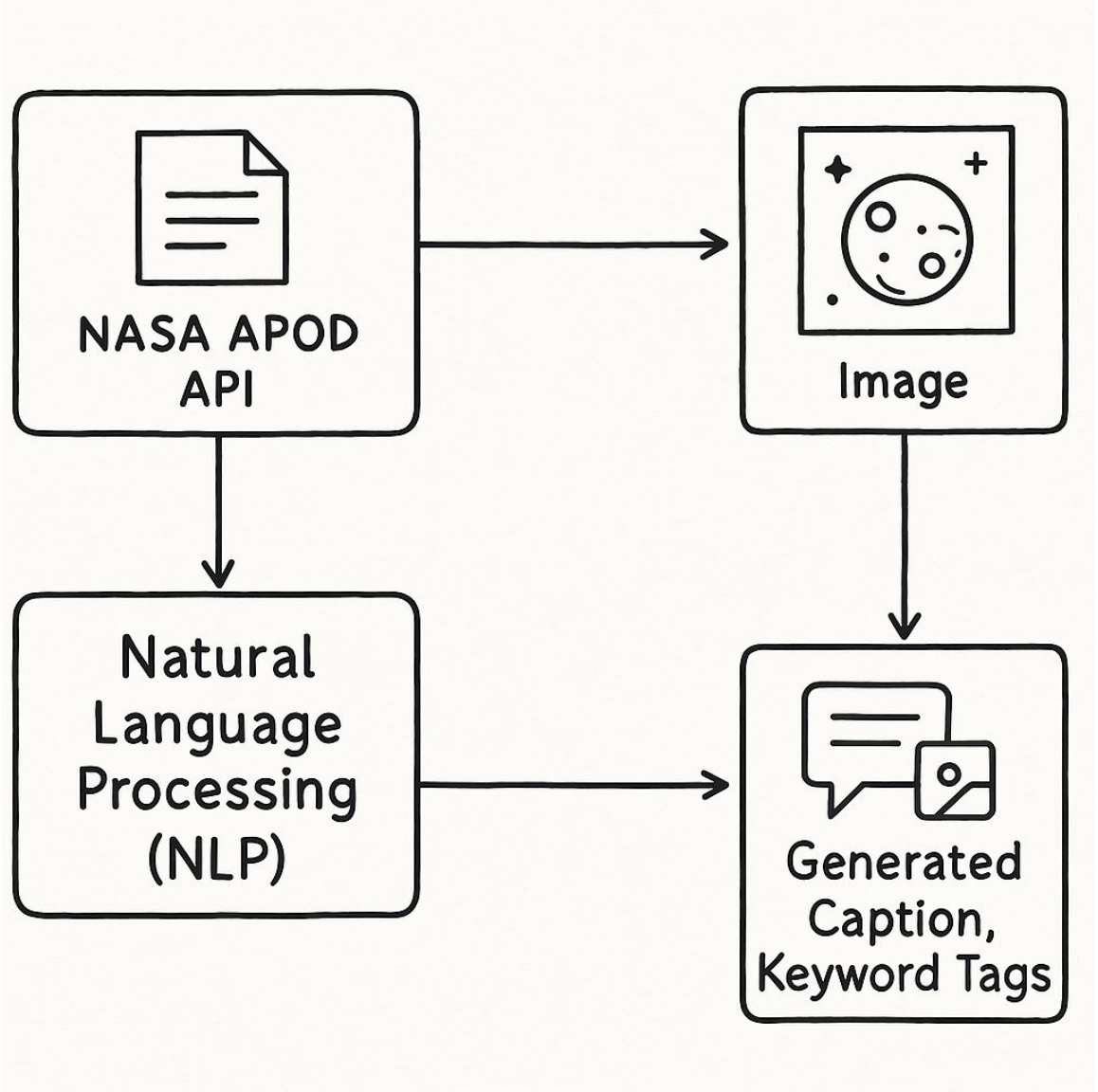
Captions written for clarity and broader accessibility

Future Enhancements

- Visualization upgrades (interactive summaries, tagging heatmaps)
- Multi-image retrieval or timeline-based exploration
- Integration with other NASA datasets

Flow of Data

A VISUAL REPRESENTIATION OF HOW THE DATA MOVES FROM API TO NLP AND THEN TO THE FRONT END.



Resources

- Copilot for code
- ChatGPT for explanations and debugging
- Streamlit Documentation
- Github for file hosting

Thank you

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