Trash Talker: Space Data Visualization

Innovative ML model for complex space data analysis.

Enhancing scientists' understanding of immune system changes in space.

Made with Gamma

Solution Overview

1 ML Model

Organizes and visualizes complex space data.

2 Pattern Identification

Clusters raw data for easy interpretation.

3 Adaptable

Handles unknown dataset features automatically.

4 Dynamic Visuals

Simplifies data interpretation for proactive monitoring.

Made with Gamma

Technical Architecture

☆

Python

Core language for model development.

🛢

Pandas & Numpy

Efficient data cleaning and manipulation.

K-Means

Advanced clustering for pattern identification.

Matplotlib & Seaborn

Detailed, clear data visualizations.

Scalability and Load Handling

Optimized Processing

Efficient handling of large space datasets.

Adaptive Features

Accommodates unknown or additional data types.

Performance Scaling

Maintains speed with high data volumes.

Feasibility

1 — **Challenge: Data Complexity**

Advanced cleaning and normalization techniques.

2 — **Strategy: Adaptability**

Implement features to handle unknown dataset structures.

3 — **Outcome: Improved Accuracy**

Maintain model precision across varying data types.

Impact Summary

1   **Data Visualization**

Simplify complex space data interpretation.

2   **Efficient Monitoring**

Track physiological changes in space environments.

3   **Research Support**

Advance ongoing space exploration and health studies.

Team Trash Talker

Preetham Kumar Dundigalla

Student, VIT-AP