Synergizing Artificial Intelligence, Large Language Models and Interactive Web Technologies for Modern Astronomy and Space Education

Yash Shevkar[1], Chaitanya Tatar[2], Ayush Kapadne[3], Himanshu Jadhav[4]
Department of Computer Science Engineering
Sandip University, Nashik, Maharashtra, India

Abstract: *AstroNautica addresses the challenges faced by space and astronomy enthusiasts by providing a centralized platform where they can access a wide range of resources and tools: Information Consolidation: Instead of scouring multiple sources for space related data, users can access NASA APIs, weather forecasts, equipment insights, and more— all in one place. Weather-Optimized Stargazing: By integrating real-time weather data, AstroNautica helps users plan their stargazing sessions effectively, ensuring they make the most of clear skies and optimal conditions. Community Engagement: With features like picture and video uploads, blogging, and personalized profiles, AstroNautica fosters a vibrant community where users can connect, share their experiences, and learn from each other. Educational Resource: Whether users are novices or experts, AstroNautica offers a wealth of educational content, including NASA's Astronomy Picture of the Day and equipment insights, enhancing their understanding of space and astronomy. Inspiration and Exploration: Through its picture gallery and interactive map features, AstroNautica inspires users to explore the wonders of the universe, sparking curiosity and fostering a deeper appreciation for the cosmos. In summary, AstroNautica streamlines access to space-related information, facilitates community interaction, and inspires exploration, making it easier and more enjoyable for enthusiasts to delve into the mysteries of the universe.*

Keywords: AstroNautica, Astronomy platform, Space exploration resources, NASA APIs, Astronomy Picture of the Day (APOD,) Stargazing optimization, Weather-integrated astronomy