

Project Proposal

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ITAI 2372 – Conceptual Design Track

AstroPal – The AI Space Companion

Overview:

AstroPal is a conceptual AI “pet” built to support astronauts’ emotional and mental wellness during long space missions. It’s not just a robot — it’s a personality-driven AI friend that astronauts can talk to, laugh with, and lean on for support. It makes space life feel a little more human.

Why It Matters:

Astronauts spend long periods away from Earth in isolated, high-pressure environments. This can lead to stress, homesickness, and even mental health struggles. AstroPal helps reduce those effects by being a comforting, intelligent presence during those tough moments.

What AstroPal Does:

- Talks with astronauts using natural language
- Tells jokes, plays music, and shares Earth updates

- Offers daily emotional check-ins and positive messages
- Learns preferences and adapts to the astronaut's mood

Goal:

The main goal of AstroPal is to provide emotional support using AI-driven interactions — improving astronaut well-being and making long missions more bearable, engaging, and connected.