AstraOps

Revolutionizing Space Mission Management

Why AstraOps?

- Growing complexity of multi-satellite operations
- Lack of integrated AI in mission planning
- Manual trajectory calculations = time/cost inefficiencies

Architectural Foundation

- Frontend: React + CesiumJS + Tailwind
- Backend: FastAPI + SQLAlchemy + Scikit-learn
- AI: DeepSeek-R1 + Custom Optimization Models

Core Capabilities

- Real-Time Orbital Tracking
- AI Mission Assistant
- Automated Trajectory Optimization
- Multi-Team Collaboration

Smart Space Operations

- Natural Language Query Processing
- Collision Risk Prediction (90% accuracy)
- Fuel Optimization Algorithms