Orbit Grid Private Limited
Decouple the growth of Intelligence from the limits of the Earth.
303-B Harsh Residency, Sunpharma Road, Vadodara, 390020
CIN: U61309GJ2026PTC174394 GSTIN: 24AAFCO0876N1Z2

Job Description

Role: Intern - Orbital Mechanics & Mission Architecture **Location:** Remote initially, transitioning to Ahmedabad within 6 months. **Type:** Part-time/Full-time Internship (Leading to Full-Time Role)

About Orbit Grid

As global data processing demands outpace terrestrial land, power, and environmental constraints, Orbit Grid is pioneering the next tier of digital infrastructure: multi-tenant, shared orbital datacenters. We are building the foundational hardware and software stacks that allow high-performance, server-class compute infrastructure to be deployed, shared, and scaled directly in space.

The Engineering Challenge

We work at the intersection of aerospace, high-density compute, and systems engineering to build spaceborne hosting capabilities. Orbital datacenter platforms present unique astrodynamics challenges. Their massive solar arrays and large radiator areas significantly increase aerodynamic cross-sections, resulting in pronounced atmospheric drag and accelerated decay in Low Earth Orbit.

You will model the lifetime trajectories, station-keeping requirements, and constellation spacing configurations required to guarantee continuous uptime and reliable downlink access for shared user workloads.

What You Will Do

- **Mission Design:** Assist in modeling constellation architectures to optimize ground-station coverage and link availability.
- **Orbital Decay Analysis:** Support simulation of lifetime decay profiles under high-drag spacecraft geometries in low-altitude environments.
- **Station-Keeping:** Assist in calculating Delta-V budgets and defining propulsion requirements to counter orbital perturbations.
- **Trajectory Optimization:** Learn and contribute to the evaluation of launch vehicle insertion parameters and deployment strategies.

Required Skills & Tools

- **Astrodynamics Tools:** Hands-on exposure to GMAT or equivalent open-source orbital tools; familiarity with STK or FreeFlyer is a plus, not a prerequisite.
- **Programming:** Competence in Python or MATLAB for computational modeling and mathematical simulations.
- **Core Physics:** Solid grasp of classical mechanics, two-body/n-body problem formulation, and orbital perturbations.
- **Academic/Project Base:** Enrolled in or graduated from a relevant Physics, Aerospace, or Mathematics program with documented work on orbital mechanics or trajectory modeling.

Compensation and Benefits

- Competitive monthly internship stipend.
- Direct path to a full-time role based on performance.
- Mentorship from senior leadership with deep aerospace and hardware background.
- Office space and hardware testing access upon moving to Ahmedabad.

To Apply: Send your CV, a portfolio demonstrating structural analysis/mechanism design, and a brief write-up to **contact@orbitgrid.in**