



# MICHAEL ANDERSON

## Lead Orbital Mechanics Engineer

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### SUMMARY

Distinguished Orbital Mechanics Analyst with over a decade of experience in aerospace engineering, specializing in trajectory optimization and spacecraft maneuvering. Proven expertise in applying advanced mathematical models and simulations to solve complex orbital dynamics problems. Demonstrated success in collaborating with cross-functional teams to enhance mission outcomes and reduce operational costs. Extensive knowledge of industry standards and practices, ensuring compliance with regulatory requirements.

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### WORK EXPERIENCE

#### Lead Orbital Mechanics Engineer NASA Jet Propulsion Laboratory

Jan 2023 - Present

- Developed trajectory optimization algorithms for interplanetary missions.
- Performed dynamic simulations to assess spacecraft performance under various conditions.
- Collaborated with software developers to integrate models into mission planning tools.
- Conducted risk assessments to identify potential mission failures.
- Presented findings to stakeholders and contributed to project proposals.
- Mentored junior engineers in orbital mechanics principles and applications.

#### Orbital Mechanics Analyst SpaceX

Jan 2020 - Dec 2022

- Analyzed orbital insertion and re-entry trajectories for Falcon 9 missions.
  - Utilized MATLAB and Simulink for modeling and simulation tasks.
  - Optimized launch windows to maximize payload efficiency.
  - Collaborated with mission planners to refine launch vehicle performance.
  - Engaged in post-mission analysis to improve future mission designs.
  - Authored technical reports detailing mission results and recommendations.
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### EDUCATION

#### Ph.D. in Aerospace Engineering, Massachusetts Institute of Technology

Sep 2019 - Oct 2020

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### ADDITIONAL INFORMATION

- **Technical Skills:** orbital dynamics, trajectory optimization, simulation modeling, MATLAB, project management, risk assessment
- **Awards/Activities:** Led a team that successfully reduced trajectory computation time by 30%.
- **Awards/Activities:** Awarded NASA's Exceptional Achievement Medal for contributions to Mars mission planning.
- **Awards/Activities:** Published multiple papers in reputed journals on orbital mechanics advancements.
- **Languages:** English, Spanish, French