Olivia Thompson

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Education

Massachusetts Institute of Technology — Cambridge, MA
Bachelor of Science in Aerospace Engineering — Aug 2023 – May 2027
Relevant Coursework: Aerodynamics, Propulsion Systems, Flight Mechanics, Orbital Dynamics, Composite Materials, Control Systems

GPA: 3.92/4.0

Technical Skills

Software: MATLAB, ANSYS, SolidWorks, Python, LabVIEW, STK

Tools: CFD, FEA, Wind Tunnel Testing, CAD/CAM, Composite Manufacturing

Projects

CubeSat Design and Development | *MATLAB, STK*

- Led team of 5 in designing 3U CubeSat for atmospheric research
- Developed orbital mechanics simulation models
- Achieved 95% power efficiency in solar panel design

Autonomous Drone Swarm | *Python, ROS*

- Created control algorithms for multi-drone coordination
- Implemented collision avoidance using computer vision
- Demonstrated successful formation flying with 6 drones

Hypersonic Vehicle Design | *ANSYS, SolidWorks*

- Designed thermal protection system for hypersonic flight
- Conducted CFD analysis of supersonic flow patterns
- Optimized design for minimal drag coefficient

Research Experience

Research Assistant - Space Systems Lab — Oct 2023 – Present
MIT — *Cambridge, MA*

- Developing novel propulsion systems for small satellites
- Conducting vacuum chamber tests of ion thrusters
- Published research in Journal of Spacecraft and Rockets

Work Experience

Aerospace Engineering Intern — Jun 2023 – Aug 2023
SpaceX — *Hawthorne, CA*

- Assisted in Starship heat shield design and testing
- Developed simulation models for reentry trajectories
- Optimized landing burn sequences for fuel efficiency

Systems Engineering Intern — May 2022 – Aug 2022
NASA Jet Propulsion Laboratory — *Pasadena, CA*

- Contributed to Mars Sample Return mission planning
- Performed trajectory optimization calculations
- Developed test procedures for spacecraft components