Jaden Xander Hernandez

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Education

Purdue University - West Lafayette, IN August 2022 - May 2026
Bachelor of Science in Aeronautical and Astronautical Engineering
Cumulative GPA: 3.32 / 4.00
Relevant Coursework: Aerodynamics, Thermal Sciences, Dynamics and Vibrations, Control Systems Analysis
Awards: Northrop Grumman S.P.A.C.E. Award, Purdue University Presidential Scholarship

Experience

Undergraduate Teaching Assistant | West Lafayette, IN January 2025 -
Purdue University College of Liberal Arts
- Creating lesson plans and activities to teach 35 students the foundations of professional writing with a focus on grant seeking and proposals.

Undergraduate Teaching Assistant | West Lafayette, IN August 2024 - December 2024
Purdue University School of Engineering Education
- Taught over 100 first-year students fundamental engineering skills such as data analysis, design process, and collaboration methods as part of the course "Transforming Ideas to Innovation I".

Undergraduate Teaching Assistant | West Lafayette, IN September 2023 - November 2023
Purdue University School of Engineering Education
- Evaluated the viability of 6 toys aimed at providing STEM education through elaborate testing.
- Surveyed and tabulated data from over 50 children on toy attributes to ensure holistic product evaluation.
- Coauthored the INSPIRE Institute's annual "Engineering Gift Guide" with informative reviews detailing key product features and learning outcomes.

Projects and Involvement

Five Dynamics October 2024 -
Co-Founder, Chief Engineer
- Co-founded the club and developed its membership structure to streamline collaboration between 16 members.
- Overseeing and designing a custom remote-control plane project using XFLR5 to determine optimal wing geometry and Autodesk Inventor to model crucial components with attention to aerodynamic performance.
- Conducting thermal analysis of pyrogen ignition systems for a solid rocket motor project, refining performance and maximizing propellant grain efficiency.

Association for Computing Machinery: Special Interest Group: Robotics August 2022 - May 2024
Strategy Subteam Lead, Treasurer, Mechanics Specialist
- Coordinated documentation and time management via Gantt charts among subteams to assure timely robot development as Strategy Subteam Lead.
- Managed accounting and finances for club member reimbursements as Treasurer.
- Designed custom parts in Autodesk Inventor with consideration for manufacturability and durability to be easily and sustainably utilized on competition robots.

Introduction to Aerospace Design: Mars Sample Retrieval August 2023 - December 2023
- Developed mathematical models in MATLAB to determine mission parameters, including ΔV, vehicle stage mass, and orbital periods for a Mars sample retrieval mission.
- Researched and selected launch vehicles, propellants, and risk mitigation strategies tailored to mission objectives.
- Authored and presented a 72-page design report, contributing to the team's recognition with the Northrop Grumman S.P.A.C.E. Award for excellence in design communication.

Skills

Computer Aided Design: Siemens NX, Autodesk Inventor
Analysis and Computing: MATLAB, Simulink, XFLR5, Python, C
Product Data Management: Aras Innovator