Aidan Astudillo

Princeton Mechanical and Aerospace Engineering Student
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EDUCATION

Princeton University
Mechanical and Aerospace Engineering — Expected Graduation May 2026
GPA 3.757 — Bachelor of Science in Engineering
Courses: Aircraft Design, Aircraft Flight Dynamics, Mechanical Design, Engineering Design, Automatic Control Systems, Rocket Propulsion, Fluid Dynamics, Mechanics of fluids, Thermodynamics, Solid Mechanics, Differential Equations.
Currently taking: Materials, Robotics, and Heat Transfer
Coursework: Designed and manufactured flying wing drone sUAV for long range medkit delivery, engineered autonomous SAR robot traversed terrain, scaled 1 foot wall, and delivered a package, configured a jet transport aircraft in OpenVSP and Fusion360 using calculations in Matlab, also analyzed flight dynamics and longitudinal stability in OpenVSP, programmed a full state feedback control system to balance an inverted pendulum on a rotary beam

Keywords: mechanical engineering, aerospace engineering, CAD, FEA, Matlab, fluid dynamics, tolerancing, project management, prototyping, system integration, composites, design for manufacturability, communication

RELEVANT EXPERIENCE

Tridentis - Naval Architecture — Summer 2025 – 12 weeks
Mechanical Engineer Intern
- Created and revised technical AutoCAD drawings for U.S. Navy Harpers Ferry-class and Whidbey Island-class vessels, ensuring precision, clarity, and compliance with client requirements
- Implement quality assurance with engineers to resolve discrepancies and deliver finalized documentation to clients
- Learned core engineering principles in naval architecture including using finite element analysis validate client designs
- Navigated structured documentation workflows, adhering to strict drawing specifications and criteria. ‘

Princeton Electric Speedboating – Organization with the world’s fastest electric boat — September 2022 – Present
Senior Project Lead
- Lead project team engineering high speed electric RC boat as part of senior thesis and to compete in annual promoting electric propulsion competition (PEP)
- Specialize in composite work utilizing carbon fiber and fiber glass in wet layups and resin infusion
- Designed structural components such as mounting brackets, adapter plates, and motor cowlings in CAD
- Manufactured parts via 3D printing, CNC machining and manual machining
- Served as Chief Operating Officer for two years where I managed all club operations including a private record event where we set the world water speed record with an official speed of 114.2 mph and an unofficial speed of 121 mph
- Ran a marketing campaign around the world record which brought in millions of views and raised over $100,000
- Teach underclassmen engineering principles key to club operations that typically are not taught in classes
- Interviewed on CNN Tech for Good after setting world record

Lightergy – Battery Manufacturer — Summer 2024 – 8 weeks
Engineer Intern
- Developed financial model for a new gigafactory project, integrating engineering and market data
- Conducted market research on advanced battery technologies, identifying performance and cost trends to guide product development direction.
- Collaborated with leadership to translate complex technical and economic findings into actionable business strategies

Flux Marine – Electric Boat Manufacturer — Summer 2023
Mechanical Engineer Intern
- Recruited in a group of students tasked with building a high-speed demonstration boat for investors
- Accomplished a speed of 75 mph, surpassing the previous company fastest by ~30 mph.
- Utilized CAD to design electronic component mounting brackets for 3D printing
- Engineered high voltage battery mounts using G-10 fiberglass, built to withstand impacts exceeding 90+ mph.

OTHER EXPERIENCE

McGraw Tutoring Center — February 2023 – Present
- Work with students in study hall format tutoring sessions for multivariable calculus and mechanical physics
- Leveraged strong listening and communication skills to help students better understand material

SKILLS

- **Language:** Spanish (4 years)
- **Technology:** Fusion 360, Creo, Solidworks, MATLAB, Python and Java Code, Office Applications
- **Practical:** 3D Printing, Manual Mill, CNC Mill, Lathe, Composites, Laser Cutting, Waterjet