

JAYDEN THOMAS

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EDUCATION

University of Delaware

Bachelors of Mechanical Engineering; Minor in Mathematics

Newark, DE

Expected graduation: May 2025

EXPERIENCE

Nasa Delaware Space Grant

Robotics Intern

Newark, DE

May 2024 - August 2024

- Designed, prototyped, and simulated micro aerial vehicles for a swarm of autonomous drones.
- Optimized drone frame using CAD and FEA, reducing weight by 50% while maintaining structural integrity.
- Integrated and programmed flight controllers (ArduPilot, PX4), soldering peripherals for full system functionality.
- Developed trajectory planning by modifying visual-inertial navigation algorithms in ROS.
- Validated localization accuracy through Software-in-the-Loop (SITL) simulations, fusing IMU and depth camera data.

Norwalt Design & Omega Design Project

Design Engineer

Newark, DE

August 2023 - August 2024

- Designed an automated pill bottle capping and filling system, optimizing efficiency and precision.
- Developed a vestibule mechanism for accurate cap placement, utilizing CNC machining and acrylic welding to increase capping speed by 15%.
- Programmed Arduino scripts to synchronize motors for cap placement, rotary table movement, and cap tightening, ensuring smooth operation.

PROJECTS

Bike Frame Design Competition

Project Leader

Newark, DE

August 2022 - December 2022

- Designed a plywood and PVC bicycle frame in SolidWorks, optimizing structural integrity and minimizing weight while supporting 175 lbs.
- Performed hand calculations using statics principles to analyze forces and reactions in the truss-like frame design.
- Validated structural performance using Finite Element Analysis (FEA) in SolidWorks, ensuring design feasibility.
- Led a team of four undergraduate students, delegating tasks based on strengths and maintaining workflow ahead of schedule.

SKILLS

- Solidworks, MatLab, Python, C++, ROS, MAVLINK, 3D Printing, Arduino, Linux, OpenCV, Soldering, Additive Manufacturing, Microsoft Word, Microsoft Excel, SimScale, FEA Analysis

