Isaac Chandler

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Education

University of Delaware — Newark, DE
Master of Science in Robotics (MSR) — *Feb. 2024 - May. 2025*
Concentrating in Artificial Intelligence, Marine Robotics

University of Delaware — Newark, DE
Bachelor of Mechanical Engineering (BME) — *Aug. 2021 - Dec. 2024*
Minor in Electrical Engineering, Computer Science, Physics, & Math — *3.2 GPA*

Experience

Undergraduate Research Assistant — Newark, DE
University of Delaware | Van Buren Labs — February 2023 – Present
- Developed a novel Unmanned Underwater Vehicle (UUV) platform.
- Designed an experiment for the ISS exploring fluid mechanics in zero gravity.
- Produced PCBs, wiring diagrams, and control systems for various lab projects.

Undergraduate Research Assistant — Newark, DE
University of Delaware | Delaware Space Observation Center — May 2022 – September 2023
- Developed a Cube-Sat ground-station for use with CURIE and future Cube-Sat missions.
- Launched experiments on multiple sounding rockets, including novel scientific missions.
- Advised undergraduate development of a Cube-Sat mission studying plasma in low earth orbit.

Projects

ISS Fluids CubeLab — February 2023 – Present
- Utilize the NanoRacks CubeLab platform to launch an experiment.
- Investigate turbulence in micro-gravity using Von Karman flow in a controlled environment.
- Write flight code to manage image capture and analysis autonomously.
- Design and manufacture mechanical hardware for experiment housing.
- Design mechatronics systems to run at ISS standards.

MOZA UUV — February 2023 – Present
- Build a novel autonomous underwater vehicle platform utilizing fin-based propulsion.
- Develop artificial intelligence, machine perception, and control systems.
- Design mechanical and electrical hardware for driving and controlling the vehicle.
- Manufacture small-scale demonstrators and large-scale prototypes.

Rock-Sat C — August 2022 – August 2023
- Developed a sounding rocket payload carrying a Langmuir Probe.
- Produced data analysis software for interpreting and applying data to ionospheric plasma physics.
- Designed hardware for recording and processing scientific data in situ.
- Wrote flight code for controlling data sampling and storage.

Cube-Sat Ground Station — June 2022 – April 2023
- Constructed a Cube-Sat ground station with capabilities for autonomous reading and tracking.
- Integrated client and host connections for remote operations via a TCP network and a GUI.
- Wrote client-side software for collecting, monitoring, and processing data on the client and host side.

Activities

Intervarsity Christian Fellowship — Campus Leadership Team, Small Group Leader — September 2021 – Present
WVUD Student Radio — Radio Host and Engineer — June 2023 – Present
Mechanical Engineering Student Squad — Tour Guide and Student Body Advocate — August 2022 – June 2023
UD Esports — Hearthstone Team, Broadcast Host & Producer — August 2021 – May 2023