

# AIDAN YOUNG

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## EDUCATION

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### Duke University

Bachelor of Science in Computer Science; GPA: 3.89

Activities: Deans List (F'21, F'22, S'24), Wayne Manor, SHAPE, Repass-Rodgers Marine Lab Scholar, DIS Study Abroad in Copenhagen (Artificial Neural Networks and Deep Learning)

Durham, NC

Aug. 2021 – May 2025

## PROGRAMMING SKILLS

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**Languages:** Python, JavaScript, C, R, SQL, Java, HTML/CSS, Elixir

**Frameworks & Technologies:** Tensorflow, Flask, AlpineJS, RShiny, Azure, Git, MongoDB, RaspberryPi/Linux, Network Architecture and Protocols, Phoenix, Markdown

## WORK EXPERIENCE

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### Duke Marine Robotics and Remote Sensing Lab

Research Intern

Summer Research

Beaufort, NC

Summer 2024-Current

- Used QGroundControl (control station software) to plan and conduct autonomous uncrewed surface vessel (USV) missions to collect bathymetry data using side-scan sonar to assist in the creation of a digital twin flood model
- Connected the pre-existing flight controller to a Raspberry Pi and cameras using Mavlink to provide the USV with image, video, and datalogging capabilities; incorporated a Flask webserver to wirelessly transmit live images

#### Current Research

- Created an entirely custom, small, cheap, and portable USV platform to enable deployment in small streams, lakes, and rivers, controlled using a Flask webserver hosted by the USV that converted web requests to motor movement
- In next version, added GPS, magnetometer, and Long Range (LoRa) radio module using Serial and I2C protocols "
- Currently implementing a custom autopilot to allow for autonomous movement, designing a network protocol using the RadioHead Packet Radio library (primarily C++), and refining an algorithm to divide complex water body polygons into simple, connected subdivisions with the goal of creating a multi-agent, fault-tolerant surveying system

### Nuance Communications (acquired by Microsoft)

Software Engineering Intern

- Created reports using R and Markdown for Site Reliability Engineering (SRE) department to analyze how and where critical incidents were occurring
- Used Kusto Query Language (KQL) to create data query and parsing pipelines from cloud-hosted Excel spreadsheet and connected them to a PowerBI dashboard to visualize CIs and KPIs with real-time updating

Remote

May 2023 – July 2023

### Saving Nature

Software Developer

- Used RShiny to create a dashboard to visualize new data on the ranges of endangered birds in South America
- Utilized tiling to significantly reduce render times of large GeoTIFF raster files; allowed users to conduct real-time range queries with user-drawn boxes by through custom preprocessing and gridding

Durham, NC

May 2022 – July 2022

## EXTRACURRICULARS

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### Wayne Manor (Social Organization)

Creative Chair

- **Design:** Made clothing designs in Adobe Photoshop and Illustrator, iterating with feedback from design team
- **Develop:** Replaced the old order system (Google Form) with a custom web app using Flask, which successfully facilitated 150+ orders

Spring 2022 – Current

Spring 2024 – Current

### Sexual Harassment & Assault Prevention & Education (SHAPE)

- **Learn:** Attend presentations on topics such as overdose prevention and restorative justice
- **Teach:** Deliver and aid in delivering presentations covering topics like consent and bystander intervention to promote campus safety

Spring 2022 – Current

## PROJECTS

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**Stork News:** Flask app that displays environmental news articles using sentiment analysis and webscraping

**Blood-Brain Barrier:** Creating various ML models to predict molecules entering the brain using tensorflow

**Wave Simulation:** A wave simulation made with a custom graphics engine using Javascript, WebGL, & GLSL