Saagar Arya

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Personal Portfolio: saagar-arya.github.io

Objective: Always learning across multiple disciplines to apply knowledge and problem-solving skills for better solutions

Education

Duke University, Major - Electrical & Computer Engineering - Computer Science
GPA - 3.97, Dean's List with Distinction (Fall 2023 & Spring 2024), Graduation - 05/2027
Coursework - Rainforest Engineering, Design to Deliver, Data Structures & Algorithms, Electricity and Magnetism

Work Experience

Tarigma Corporation - Software Developer April 2023 – Present

- Tarigma develops software to monitor and detect issues in the electrical grid
- Worked as a full stack developer in React, JS, Java, Spring, SQL, XML developing G.E.M., a power grid monitoring software
- Developed a fault diagnostics page that allows engineers to run fault calculations manually - particularly helpful when line geometry is incorrect

Marine Robotics and Remote Sensing Lab

- Created an autonomous rover to generate 3D maps of surveyed areas
- Analyzed GNSS (GPS) and Lidar data of surveyed areas to develop the digital twins

ETSY - Flute rest online store - Utility Patent Granted 11/2022 April 2020 – Present

- Created a unique 3D-printed solution for flute rests
- Operate the business end to end, all functions including customer service, printing flute rests, finance reporting
- Work independently with music stores for wholesale orders

Proficient Skills

- Java, Python, C++, C, JS, React, SQL, XML, Spring, and Arduino
- CAD & CAM in Autodesk Fusion 360, Solid Works, VLSI in Autodesk Eagle and Altium
- Laser cutting, 3D modeling & printing, Metal anodizing, CNC cutting, Water Jet cutting, and PCB milling.

Engineering Project Experience

Multidisciplinary Learning across - Electronic Design - Programming - Mechanical Engineering - Materials Science - Aeronautical Concepts - Biomedical Engineering

Head Clamp Pressure Monitor (Team) - Applying for patent August 2023 - Present

- Head Clamp is a neurosurgical aid that holds the skull in place during surgery
- Fabricated custom PCB with 2 stage op-amp, digital offset potentiometers, bluetooth, integrated LED's, and noise minimization
- Designed and fabricated modified steel Head Clamp pins
- Incorporated strain gauges into the pin to measure deformation
- Mapped strain readings to force and pressure readings

Glacier Bay Seal Analysis Project (Individual & Team) September 2023 - Present

- Creating a Workflow that takes drone flight images to identify and report seal locations
- Experimented with training machine learning models with modified datasets and combining model results (Python)
- Analyze results to identify seal habitat preference concerning ice density etc…

Duke Underwater Robotics Club (Large Team) - Mechanical Lead (Fall 2024 - Spring 2025) August 2023 - Present

- Building an autonomous underwater robot to complete various tasks
- Built & Implemented: Thruster covers for efficiency/mounting (3D printed), Top Plate to secure central component hub (Anodizing and CNC), Using Hydrophones to track the location of a buzzer in relation to the robot (Electronics Analysis), Helped develop Computer Vision System for robot path creation.
- Learning to waterproof, designing to minimize weight, and working in a large team environment
- Working with various sensors to decipher target values from noise