Saagar Arya

(614)554-0302 | Saagar.arya@duke.edu | LinkedIn | GitHub |Portfolio

EDUCATION

Duke University Pratt School of Engineering   Durham, NC
Bachelors of Eng. Electrical and Computer Engineering / Computer Science   *Aug. 2023 – May 2027*

GPA: 3.97 Deans List with Distinction (Fall 2023/Spring 2024)
Relevant Coursework: Rainforest Engineering, Design to Deliver, Data Structures & Algorithms, Signals and Systems, Computer Architecture

EXPERIENCE / PROJECTS

Intern Software Engineer   June 2022 – Present
Tarigma Corporation / Paid / Hybrid   *Columbus, OH*

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

Technical Research Intern   September 2023 – Present
Marine Robotics and Remote Sensing Lab / Paid June 2024 - August 2024   *Beaufort, NC*

- Using a YOLOv8 machine learning models to detect seals in drone data from Glacier Bay National Park
- Comparing seal location with ice density gives clues about habitat preference and guide conservation strategies
- Implemented a Lidar system on an autonomous terrestrial rovers to create digital twins of surveyed areas
- This system is also being used to map terrain under forest canopies which aerial surveys have trouble capturing

Chief Engineer | *Duke Robotics Club*   Auguest 2023 – Present

- Building an autonomous underwater robot to complete various tasks
- Oversee all technical teams (electrical, mechanical, software) to ensure effective integration of all AUV systems
- Leading design of new underwater autonomous vehicle
- Built & Implemented: Torpedos and torpedos fluid simulation, Thruster covers for efficiency/mounting, Top Plate to secure central component hub, Using hydrophones to track the location of a pinger

Head Clamp Pressure Monitor | *Applying for Patent*   August 2023 – Present

- Head Clamp is a neurosurgical aid that holds the skull rigid during surgery. Current method of pressure reading is outdated/unreliable
- 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 which are transmitted to a monitor and can be monitored throughout surgery

ETSY Flute Accessory | *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

TECHNICAL SKILLS

Languages/Frameworks: Java, Python, C++/C, SQL, JS, React, TSX, XML, Spring
Softwares: CAD & CAM in Autodesk Fusion 360, Solid Works, VLSI in Autodesk Eagle and Altium
Physical Tools: Laser cutting, 3D modeling & printing, Metal Anodizing, CNC cutting, Water Jet cutting, and PCB milling
Machine Learning: Computer Vision, Extract Transform Load, Yolo V8 & Image Recognition