ANMOL BARUWAL

Nashville, Tennessee, United States | 413-273-9005 | anmolbaruwal01@gmail.com | Github | Linkedin

EDUCATION

Fisk University — 2021 - 2025
Bachelor of Science: Computer Science — ***GPA:*** 3.84 / 4.0

SKILLS

Programming Languages: C, C++, Python, Java, SQL
Embedded Systems & Tools: RTOS, Memory Management, Logic Analyzer, SPI, BLE, Driver Development, LLDB
Computer Vision & ML: OpenCV, YOLOv4-tiny, ResNet18, AlexNet, Kalman Filters, TensorRT(basic), PyTorch (basic)
Hardware & Prototyping: Sensors (IMU, Light, IR), 3D Printing, Wio Terminal, Oscilloscope
Systems & Cloud: Linux, Docker, GitHub, GCP, AWS

WORK EXPERIENCE

Apple (San Diego, CA) | *Engineering Intern* — *May 2024 - August 2024*

- Developed firmware in an **RTOS environmen**t for AirPods, enabling seamless updates and improving user experience.
- Performed **end-to-end testing** between devices and source, leveraging **LLDB** and **log analysis** to ensure backward compatibility.
- Enhanced **CI/CD pipelines** and automation tools by streamlining and debugging the development and deployment processes.
- Refined **system design** and development efficiency through active participation in Engineering and **Architecture Review Sessions**.
- Coordinated with **5+ teams** of HID engineers, Quality Analysts, and Hardware engineers to align with **feature updates** and ensure timely delivery of **firmware releases.**

Maroon (Nashville, TN) | *Software Developer Intern* — *June 2025 - Present*

- Architecting and implementing a **real-time notification process** for an Android/iOS dating platform using **Python (FastAPI)** and AWS services **(SNS, Lambda, DynamoDB)**.
- **Owning** the full development lifecycle, from **backend API engineering** and automation testing to creating detailed technical documentation, and accelerating **product validation in an early startup**.
- Developing a comprehensive **automation suite** in Python, integrating with the **CI/CD workflow** to ensure **system reliability**.

Tufts University (Medford, MA) | *Engineering Education and Outreach Intern* — *June 2021 - August 2021*

- Developed a **Smart Motor** using the Wio Terminal (ARM Cortex-M4F), designing a trainable motor that adapts to **sensor inputs** and demonstrates hardware–software integration.
- Applied **PID tuning** and real-time **problem solving** to improve **motor performance** in hackathon-driven environments.
- Leveraged the **2.4" LCD**, onboard buttons, and buzzer to create an intuitive, **language-agnostic UI** for training and testing motor behaviors.
- Streamlined **microcontroller development** using **embedded C++**, Arduino CLI, and custom hardware feedback loops, improving development **speed and reproducibility.**

PROJECTS

AI Profile Builder - *RAG, OpenAI, GCP, FastAPI* — *May 2025 - Present*

- Architected and deployed a full-stack, **serverless application** on **Google Cloud**, establishing an automated CI/CD pipeline with Cloud Build to ensure rapid and **reliable feature delivery.**
- Integrated the **OpenAI API** to **transform** unstructured resumes into **structured JSON** and intelligently rewrite content into high-impact, **STAR-method** achievements, directly improving users' job application quality.
- Built a polished, intuitive frontend with React and TypeScript, featuring a drag-and-drop uploader and **real-time feedback** to create a seamless and **engaging user experience**.

Object Detection Robot - *Computer Vision, Embedded Systems, Debugging, Sensor, Camera Calibration* — *Aug 2024 - Dec 2024*

- Developed an **object detection** robot using Jetson Nano, integrating **YOLOv4-tiny**, **centroid tracking**, and **Kalman filters.**
- Designed and implemented an object-following **algorithm** with **motor-driven** navigation, enabling dynamic obstacle avoidance.
- **Trained models (ResNet18, AlexNet)** on 326 images, achieving **92%** collision classification **accuracy** while optimizing hardware.

HONORS & AWARDS

Apple HBCU Scholar — *2024*
Provost Scholar - Fisk University (Full-Tuition Scholarship) — *2023-2025*
Goldman Sachs Market Madness Scholar (Selected from +1000 applicants for a semester-long case-study program) — *2024*
Britton C. McCabe Scholastic Award (Awarded to high-achieving students) — *2023*