Gaurav Bhalla

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EDUCATION

Texas A&M University, College Station, Texas

Bachelor of Science in Computer Engineering - Electrical Engineering Track *May 2022*
Minor in Mathematics *Cumulative GPA: 3.5*

Related Coursework

Circuit theory, Analog Design, Digital Design, Microprocessor System Design, CMOS VLSI design, Computer Architecture, Operating Systems, Computer Systems, Data Structures & Algorithms, Data Science, Computer Networking & Security, Communications & Cryptography

Skills Summary

Extensive Experience with ARMv8, RISC-V, C, C++, Linux, FreeRTOS, MATLAB, Python, Java, SQL, JavaScript, HTML, CSS, Git, and GitHub for projects.

EXPERIENCES

Canadian Armed Forces Candidate *May 2022 – May 2023*

- Attempted enrolling in the Canadian Armed Forces through an intensive application process.
- Disqualified due to medical condition.

OpenSource LiDAR, Capstone Design *Jan. 2022 – May 2022*

- Worked in team to design LIDAR system based on open-source design for research group.
- Built a scanning motorized mirror platform to reflect a laser's light around vicinity.
- Programmed rotary encoder to record real time speed of moving mirror and in creating 2D point cloud map.
- Analyzed PCB design files with Altium Designer and started work on new PCB design.

Physical Design Researcher *Apr. 2021 – Jan. 2022*

- Worked under professor to attempt developing an optimal routing algorithm for FPGAs.
- Learned concepts from Xilinx's RapidWright, and University of Toronto's VPR tools.

Aggies Invent NSA 3rd Place Winner, Team Sensory Overload *Sep. 2021*

https://engineering.tamu.edu/news/2021/09/first-in-person-aggies-invent-in-two-years-hosted-by-national-security-agency.html

- Developed a solution for pedestrian and cyclist accidents at a 48-hour hackathon in a 6-member team.
- Designed a model that detects objects through sensors and informs the user through vibration motors on the user.
- Built working prototype with only materials from team: Arduino, wires, 2 Piezo buzzers, 2 breadboards, 1 infrared sensor, 1 ultrasonic sensor and a battery pack.

Embedded Design Engineer, Texas A&M RoboMaster Robotics *Feb. 2020 – Oct. 2020*

- Programmed robot functions through the Keil uVision5 software and STM32CubeMX.
- Used FreeRTOS with the STM32 RoboMaster Development Board Type A on STM32CubeMX.

Software Engineering Intern, Parkland Center for Clinical Innovation *Jun. 2020 – Aug. 2020*

- Developed a full-stack MVP web application with Flask, HTML, CSS, and JavaScript.
- Followed the OAuth2.0 protocol to implement the Azure AD REST API which authenticates company users.
- Deployed on an Azure Linux VM with the Gunicorn WSGI and Nginx reverse proxy servers.

LEADERSHIP

Resident Advisor *Aug. 2021 – May 2022*

- Created inclusive community on 1st floor of a dorm through planned events and individual mentoring.
- Monitored halls, performed room inspections, and ensured residents' compliance with dorm policies.

Engineering Peer Mentor *Aug. 2019 – March 2020*

- Collaborated with Resident Advisors to mentor 1st year engineering students in a dorm.

Corps of Cadets *Aug. 2018 – May 2019*

- Learned time management, perseverance, self-discipline, rational thinking and leadership skills.