VISHAAL VASU

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SUMMARY

As a self-directed, hardworking Computer Engineering student, I have collaboratively completed advanced projects involving data structures, tutored undergraduates on electronics, and applied my knowledge in real-life scenarios through clubs and business ventures.

I seek an internship to not only explore the interface between hardware and software in a professional setting but also to feed my hunger to change the world in a meaningful way through innovation.

EDUCATION

University of California San Diego

BS Computer Engineering | Expected July 2023

- Overall/Major GPA - 3.97/3.97
- Provost Honors

Relevant Coursework

- ✓ CSE 12 -Object-Oriented Design
- ✓ CSE 30 - Computer Organization and Systems Programming
- ✓ CSE 100 - Advanced Data Structures
- ✓ CSE 110 - Software Engineering
- ✓ CSE 151A - Machine Learning
- ✓ ECE 45 - Circuits and Systems
- ✓ ECE 65 - Linear and Non-Linear Circuits Laboratory
- ✓ ECE 109 - Engineering Probability and Statistics

Morgantown High School, WV

Graduation Date | June 2019

- Weighted/Unweighted GPA - 3.95/4.28

SKILLS

Programming

- Python (Matplotlib, NumPy), Java, C++, C, ARM Assembly, Shell Script, MATLAB
- GNU Screen, Latex, Unix terminal, Git, GitHub, GDB, Valgrind, JUnit, Java Swing
- Agile methods, version control, test harnesses
- Basic circuit design in Multisim

Communication and Interpersonal

- Developed and managed advertising campaign on Facebook and Instagram, recruited tutors, and designed google site for personal side business TutorBrokers
- Students I've worked with at my UC San Diego tutoring job describe me as "knowledgable, respectful, patient, and considerate" and provided 100% positive quarterly feedback

EXPERIENCE

Analog Circuit Design Instructional Assistant

UC San Diego | September 2020 - Present

- Hired to tutor ECE 35, a class of over 300 students, through a strict interview process
- Lead bi-weekly 1 to 20-student sessions to strengthen student understanding of fundamental circuit theory
- Administer 1-on-1 oral exams to determine and better students' practical knowledge of course content
- Organize weekly social events to foster a friendly and personal learning environment during the COVID-19 pandemic

Embedded Engineer at Triton Unmanned Aerial Systems

UC San Diego | September 2020 - Present

- Implement software (using C++) to manage MAVLink communication protocol between ground control station and autonomous plane
- Build Arduino circuit system to simulate I2C BUS and UART (separately) in the plane
- Test I2C and UART bandwidth limits, throughput, and success rate in terms of delivering MAVLink packages to and from the plane

StartR Accelerator Program

UC San Diego | September 2020 - Present

- Develop tech startup from idea to minimum viable product with the goal of creating social impact through entrepreneurship
- Collaborate in a small-team environment to learn business methodologies from highly successful Harvard and Yale business graduates

PROJECTS

Disease Transmission Cluster Graph Tracing

UC San Diego | September 2020

- Designed graph to perform analysis on edges and nodes representing patients and transmission clusters
- Optimized graph to be memory and runtime efficient when accessed by algorithms
- Applied simpler graph traversal algorithms (i.e. BFS) as components to solve more complex tasks such as finding connected patients in a cluster with a certain disease transmission threshold

Password Storage Application

UC San Diego | Novemeber 2019

- Utilized Java Swing to design login system and password storage user interface
- Employed Apache POI-HSSF library to write and read encrypted passwords to and from an Excel Sheet
- Simulated database by accessing user-specific data from Excel Sheet when logged into application
- Programmed bottom-up to simplify testing of robust login system