Rahul Dharmaji

Undergraduate Student – Computer Engineering
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Education

University of California, Santa Barbara
B.S. Computer Engineering · GPA: 3.86 ·· 9/19 – 6/23 (expected)

Data Structures & Algorithms, Object-Oriented Design, Computer Vision, Application Programming, Sensor and Peripheral Design, Analog/Digital Circuits & Systems, Boolean Algebra, Digital System Design, Discrete Math, Linear Algebra, Differential Equations, Vector Calculus, Probability & Statistics

Skills

- Daily user of `arch/i3` as a Linux development environment
- Frequent usage of `vim`, `git`, and `make` for personal coding projects
- Experience in shader development with `OpenGL+GLSL`
- Skilled in building desktop applications with `C/C++`
- Heavy user of `LaTeX` to write reports and format data
- Able to build embedded software using `Verilog/C`

Projects

OpenGL Shaders – C/C++/GLSL ·· 7/20 – present

Using `GLSL`, and the `raylib` API, created shaders to simulate a volumetric fog effect on a 2D plane using Fractal Brownian Motion in order to conserve compute capability over similar 3D effects. Recreated the Gaussian shader algorithm with variable kernel parameters.

Piano Visualizer – C++ ·· 6/20 – present

Using open-source MIDI-handling APIs, built a desktop application to visualize live and prerecorded MIDI input. Created custom UI workflows to optimize user experience.

Experience

Vyu Labs, Inc.
Software Engineering Intern ··· 6/20 – 9/20

Installed, tested, and certified development builds for iOS and Android. Ran debugging tools with breakpoints to identify bugs in unit test cases. Adjusted live streaming parameters (bitrates, framerates, resolutions, etc.) to determine optimal rendering configurations for mobile phones, tablets, and laptops. Logged bugs with developers and pushed builds onto QA servers.

Valkyrie Robotics
STEM Mentor, Director of Media ··· 3/18 – present

Assisted in fulfilling logistics and operations management for the organization by supervising students in the workshop. Worked with the organizations recruitment committee to help expand membership. Provided graphic design and media support by designing flyers and posters for organization events.