

Rahul Dharmaji

Graduate Student – Computer Engineering
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Education

University of California, Irvine

M.S. Electrical & Computer Engineering 9/23 – 6/24 (expected)

University of California, Santa Barbara

B.S. Computer Engineering 9/19 – 6/23

Data Structures & Algorithms, Automata & Formal Languages, Real-Time Embedded Systems, Operating Systems, Computer Architecture, Computer Vision, Digital Signal Processing, Digital System Design, Analog/Digital Circuits & Systems, Sensor & Peripheral Design

Skills

- Daily user of `arch/i3` as a Linux development environment
 - Frequent usage of `vim`, `git`, and `GNU make` for personal coding projects
 - Experience in graphics programming and `OpenGL+GLSL`
 - Skilled in building user-oriented applications with `C/C++`
 - Heavy user of `LaTeX` to write reports and format data
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Projects

`meikyuu` – Modular Graphics Engine · `C/C++/GLSL` (private repository) 7/20 – present

Using `GLSL`, and the `OpenGL` API, created shaders to simulate a volumetric fog effect on a 2D plane using Fractal Brownian Motion as a means to conserve compute capability over similar 3D effects. Created a custom build system in order to dynamically integrate program assets into code.

`nodumi` – Interactive Music Visualizer · `C++/GLSL` ( – `iikare/nodumi`) 6/20 – present

Built a cross-platform application to visualize live and prerecorded musical input. Designed a custom Voronoi cell shader for visualizing music patterns in real-time. Implemented a real-time simulation of a FFT on discrete musical instrument input data.

Experience

Embedded & Cyber-Physical Systems Lab | Irvine, CA

Researcher 6/23 – present

Research Interests: AI/ML, LLMs, NLP, Computer Security.

Valkyrie Robotics | Santa Clara, CA

STEM Mentor, Director of Media 3/18 – 8/23

Worked with the organization's recruitment committee to help expand membership. Provided graphic design and marketing support by designing flyers and posters for organization events.

Vyu Labs, Inc. | Cupertino, CA

Software Engineering Intern 6/21 – 9/21 · 6/22 – 9/22

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, frame-rates, resolutions, etc.) to determine optimal rendering configurations for mobile phones, tablets, and laptops. Logged bugs with developers and pushed builds onto QA servers.