Raul Patel

github.com/raulpatel | raulpatel.github.io | linkedin.com/in/raulpatel/

EDUCATION

University of Oregon — **B.S. Computer Science** — *Oct 2019 - Jun 2023*

- *3.61 GPA; Music Minor; UO Excellence Scholarship; Dean's List*

EXPERIENCE

CDUX Research Group — **Undergraduate Research Assistant** — *Jun 2021 - Jun 2022*

- Worked to apply computer graphics techniques to exascale scientific visualizations in C++
- Helped in implementing a physically-based rendering shader and texture-mapping functionality to VTK-m for use in HPC

UO Student Goverment — **Finance Senator** — *Mar 2020 - May 2023*

- Responsible for the allocation of a $17.5 million annual fund for programs and events at the University through ASUO
- Successfully led a project to establish a more equitable Dean's List policy for the University

UO CS Department — **Undergraduate Teaching Assistant** — *Sep 2020 - Sep 2021*

- Taught object-oriented and functional programming in Python; led coding exercises with a group of 10 first-year students weekly
- Held weekly office hours and reviewed student coding projects to help students reach their academic goals

On the Rocks A Cappella — **Music Director** — *Feb 2020 - Jun 2023*

- Coordinated gigs, recording times, and engineering for published music; arranged, taught music to, and directed a group of 14 singers
- Formed and maintained connections with local businesses and schools, clients, industry professionals

PROJECTS

Portfolio Website — raulpatel.github.io — *Sep 2022*

- *Javascript, HTML, CSS*; JS website with dual portfolio for Software Engineering and Music

Claustrophobia (Game) — https://raulpatel.itch.io/claustrophobia — *May 2023*

- *Unity (WebGL), C#*; Basic escape room game built to learn the basics of the collaborative game development cycle in Unity and C#

Parametric Console EQ Plugin — Nov 2022

- *C++, JUCE*; Using JUCE and DSP concepts to create a 4-band EQ plugin with a low and high shelf and two peak bands. Available in both AU and VST3 from my GitHub/portfolio website.

Parallel Cellular Automata API — Nov 2021

- *C++, OpenMP*; Group project creating an API from scratch with 3 rudimentary cellular automata simulations: Game of Life, Forest Fire Simulation, and Flocking Simulation. Parallelized and run on HPC system to show speedup from sequential execution algorithm.

CPU Image Rasterizer — Apr 2021

- *C++, VTK*; A software-based computer graphics system that renders imagery via rasterization, including Phong shading, hidden surface removal, and arbitrary camera positions with the CPU.

SKILLS

Programming Languages

- C++, C, Python, Javascript, HTML, CSS, C#, Swift

Related Experience

- Git, Agile Dev, Kanban Dev, REST, Unix, Bash, JUCE, React, Unity, Node.js, OpenGL, OpenMP, Docker, macOS, Windows

Development Environments

- Vim, VSCode, JetBrains IDEs, IDLE, Xcode, Atom, Sublime

Relevant Coursework

- Data Structures & Algorithms, Operating Systems, Software Engineering, Principles of Programming Languages, Audio Effects Theory and Design, Computer Graphics, Game Programming, Scientific Visualization, Parallel Computing, Linear Algebra, Discrete Math, Calculus

Interests

- Music Production and Engineering, Guitars and Repair, Cooking, Traveling (38 countries and counting), Spanish