Raul Patel

www.linkedin.com/in/raulpatel/

EDUCATION

B.S. Computer Science | University of Oregon *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

Associated Students at University of Oregon | Senator *Mar 2020 - present*

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

University of Oregon | 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

On the Rocks A Cappella Group | Music Director *Feb 2020 - present*

- Coordinate gigs, recording time, and engineering for published music; arrange, teach music to, and direct a group of 14 singers
- Form and maintain connections with local businesses and schools, clients, industry professionals

PROJECTS

GitHub | https://github.com/raulpatel

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

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

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

- *Unity, 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, Flocking Simulation. Parallelized and run on HPC system to show speedup from traditional sequential execution.

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, Unix, Bash, JUCE, React, Unity, Node.js, OpenGL, OpenMP, Docker, Unix, macOS, Windows

Development Environments

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

Relevant Coursework

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

Interests

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