

EDUCATION

B.S. Computer Science | University of Oregon

Graduating 2023

- GPA: 3.74; Music Minor; UO Excellence Scholarship; Dean's List;

Relevant Coursework

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

WORK EXPERIENCE

CDUX Research Group | Undergraduate Research Assistant

Jun 2021-2022

- Work to apply computer graphics techniques to extreme-scale scientific visualization
- Helping to implement a Physically-Based Rendering Shader and texture-mapping functionality to VTK-m

Associated Students at University of Oregon | Senator

Mar 2020-present

- Personally responsible for managing ~\$1 million of a \$17.5 million budget for student services and programs in the Memorial Union as a member of the EMU Board
- Worked with the Undergraduate Council to change the Dean's List Policy for the University

University of Oregon | Undergraduate Teaching Assistant

Sep 2020-2021

- Teach object-oriented and functional programming in Python and walk through coding exercises with a group of 10 first-year students weekly
- Hold weekly office hours and review their coding projects

On the Rocks A Cappella | Music Director

Feb 2020-present

- Coordinate concerts, teach music to and direct a group of fourteen singers
- Assisted in forming connections with local businesses and schools

PROJECTS

GitHub Link | <https://github.com/raulpatel>

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 all from the CPU.

Parallel Cellular Automata API

Nov 2021

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

Master Control Program

May 2021

- C; Using system commands to implement 8 unix commands and to create an MCP that receives a list of commands and launches and schedules those commands as subprocesses.

Portfolio Website | raulpatel.github.io

Sep 2022

- Javascript, HTML, CSS; Basic form created from template. Added functionality to swap between a professional portfolio and my personal music portfolio.

SOFTWARE SKILLS

Programming Languages

- C++, C, Python, Javascript

Related Experience

- Git, Unix, Bash, JUCE, Node.js, OpenGL, OpenMP, Docker, Unix, macOS

Development Environments

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