

# MARSHALL ZHANG

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## EDUCATION

### University of Portland

B.S. Computer Science, B.A. Music

Portland, OR

Fall 2020 – Spring 2025

**Relevant Courses:** Discrete Math, Linear Algebra, Data Structures, Theory of Computation, Algorithms, Object-Oriented Programming, Full-Stack Engineering, Programming Languages, Compilers, Computer Architecture, Operating Systems, Big Data, Game Design

**Awards:** Outstanding Capstone Project, Outstanding Instrumentalist, Dean's List, Presidential Scholarship, Music Scholarship

**Activities:** Tennis Club president, Lion Dance head, Symphony & Chamber Orchestra First Chair, Senior Recital

I took a one-year gap year (F'21–S'22) to care for my mother, who had cancer.

## SKILLS

Java, C/C++, Python, HTML, CSS, JS, R, Rust, Linux, VSC, Gradle, Godot, MATLAB, Midi

## NOTABLE PROJECTS

### Senior Capstone Project – MicroMouse

Fall 2024 – Spring 2025

Team Lead

*Course: Multidisciplinary Capstone*

- Led team of 4 by setting milestones and deadlines, delegating tasks, and serving as liaison between team and faculty advisors
- Designed and created a robotic mouse that solves an interchangeable 10'x10' maze using a flood fill algorithm
- Integrated Java on STM32 Arduino IDE with C to connect algorithm with mouse
- Calibrated sensors and PID, unit tested hardware components, and troubleshooted with flashing LEDs
- Built test maze from particle board and foam
- Participated in APEC 2025 MicroMouse Contest

### University of Portland Global Contribution Information Website

Spring 2024

Full Stack Developer

*Course: Full Stack Engineering*

- Integrated a full stack map pinning website from existing code to reflect the university's global affiliations' accomplishments
- Organized schedules through Agile/sprint cycles across a team of five, led stand-up meetings, communicated issues, created unit tests, implemented Continuous Integration, developed various webpages, and connected backend SQL data to be reflected on the map
- Completed a deployable MVP with password security, database, map zooming, pin utilization, and data description
- Integrated project into GitHub with full stack languages like HTML, CSS, JS, YML, and SQL along with CI implementation

### Chess Game Build

Spring 2023

Software Developer

*Course: Object-Oriented Programming*

- Used Java and Object-Oriented Programming to create a playable chess game with full foundational functionality
- Implemented backend chess piece functionality, created a checkmate algorithm, and integrated systems end-to-end
- Created a fully playable chess game with graphics and movement indicators that accurately reflect game rules
- Coded on Android Studios (playable on tablets) while maintaining code integrity through GitHub and Gradle

Other projects include: Mortal Cooking game (F'24), Speedrun game (F'24), Game-Jam Horror game (F'24), Olympic Data Analysis and Visualization (F'24), Java Compiler-MiniJava (S'24), Connect4 in Python (F'24), Passionfruit on Midi (S'23), DFA animator (F'23)

## PROFESSIONAL EXPERIENCE

### University of Portland Computer Science Department

Portland, OR

Teaching Assistant

Spring 2023 – Fall 2024

*Courses: Introduction to Computer Science, Data Structures, Theory of Computation*

- Communicated with professors about student grades and feedback through Microsoft spreadsheets and weekly meetings
- Debugged student homework and provided feedback for improvement

### Mega United Corporation

Harmon, GU

HVAC, Carpentry, Masonry, Piping, Operations, Electrical

Summer 2023, Summer 2024

*Construction Worker*

- Troubleshooted, maintained, and installed AC and refrigerators with a team of 3
- Pulled needles from planks, filled gaps in walls, pulled wires, installed light bulbs, smoke alarms, outlets, and switches, laid pipes, excavated job site with backhoe
- Communicated with customers for requirements, concerns, and payments
- Participated in government bidding, site management, and financial meetings with accountants and project managers