Randy Zhu

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Education

University of British Columbia GPA: 88%
BSc, Honours Computer Science and Software Engineering, Co-op *September 2023 – May 2028*

Technical Skills

Languages: Java, C#, Python, C, C++
Frameworks: JUnit, Unity, NUnit, Swing, Flask,
Developer Tools: Git, Docker, Azure, CloudFlare, Linux, Interactive Disassembler, Cisco Wireless, Hyper-V, VMware ESXi, Excel
Libraries: Sympy, Numpy, Pandas, Matplotlib, MongoDB, jQuery, Catch, Flask, Swing/Java AWT, NUnit, JUnit, Unity, Power Apps Component Framework

Work Experience

Research Assistant May 2025 – Sept 2025
Software Practices Lab (UBC Department of Computer Science) *Vancouver, BC*

- Collaboratively developed unit test generation tool with a fellow summer research intern.
- Created LLM-assisted intelligent detection of global state in Python functions, with both a static and a dynamic analysis pass to determine whether objects should be mocked.
- Using PyTest, created high quality, repeated, and fast unit tests that complied with Assert-Arrange-Act testing practices to detect bugs early on in the development lifecycle.

Power Platform Developer Co-op September 2024 – April 2025
Teck Resources Limited *Vancouver, BC*

- Developed React photo viewer plugin with Typescript and Power Apps Component Framework
- Performed automated testing of Power Apps UIs using Dataverse API and Puppeteer in C#
- Transitioned legacy Excel spreadsheets to Power App solutions using Pandas and Python, converting data and accelerating ETL pipelines for business analysis teams.
- Architected efficient relational database schemas in Microsoft Dataverse.
- Developed manual test plans in Excel, catching 85% of bugs before deployment.
- Wrote clean, event-driven functional Power FX code for UI and database interaction.

Undergraduate Teaching Assistant July 2024 – Present
The University of British Columbia *Vancouver, BC*

- Debugged and optimized students' event-driven Java Swing code in office hours and labs.
- Achieved an average rating of 4.9/5 for student engagement, preparation, and fostering a positive learning environment.

Volunteer

Automation Developer September 2023 – Present
UBC Agroponics *Vancouver, BC*

- Orchestrated the deployment of farming automation web applications using Docker, accelerating the development lifecycle and improved scalablity.
- Debugged Arduino C programs for interfacing with sensors, and taught fellow team members how executables are laid out in memory.

Projects

ExploTest | *Python, static and dynamic program analysis* Sept 2025

- ExploTest is a tool used to generate unit tests from system-level integration tests. It captures procedure calls during whole-program execution and creates individual unit tests for each procedure.

Collidy Road | *Unity, C#, .NET* July 2023

- Achieved 95th percentile rated game quality, voted on by other contestants in the game jam.
- Developed player and hostile entity play scripts in C#.
- Optimized game logic for large hostile entity count.