Randy Zhu

604-704-9500 | randy@randyzhu.com | linkedin.com/in/rzhu08 | github.com/RandoNandoz

Education

University of British Columbia GPA: 88%

Bachelor of Science, Computer Science and Software Engineering *September 2023 – May 2028*

Technical Skills

Languages: Java, C#, Python, C, C++, TypeScript, Lisp (R6RS/Racket), SQL (some T-SQL)
Developer Tools: Git, Docker, VSCode, Visual Studio, IntelliJ, Azure, Linux
Testing Frameworks: JUnit, NUnit, PyTest, Playwright
Technologies: pandas, Matplotlib, MongoDB, jQuery, React, Swing, Java AWT, Power Apps Component Framework, Unity Game Engine, Flask, Firebase, ASP.NET, Entity Framework, SQLAlchemy, CsvHelper, Dynamics CRM, PostgreSQL, Microsoft SQL Server
Developer Skills: Agile Software Development, Unit Testing, Test-Driven Development

Work Experience

Research Assistant May 2025 – September 2025

Software Practices Lab (UBC Department of Computer Science) *Vancouver, BC*

- Collaboratively developed unit test generation tool with a fellow summer research intern.
- Designed and implemented static and dynamic program analysis techniques to extract program data to facilitate unit test creation.
- 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 in an Assert-Act-Arrange style to detect bugs early on in the development lifecycle.

Power Platform Developer September 2024 – April 2025

Teck Resources *Vancouver, BC*

- Created calendar Power App component used by teams across the organization for scheduling and resource management
- 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

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
- Led weekly labs with 90 students per week, achieving an average rating of 4.9/5 for student engagement, preparation, and fostering a positive learning environment
- Taught students low-level computer systems concepts such as basic computer architecture, assembly programming in a MIPS dialect, memory management in C, threading, and C++ vtables
- Advised students on debugging strategy for assignments involving complex memory allocation issues

Projects

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

- ExploTest is a research prototype 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
- Debugged and developed player and hostile entity player interaction scripts in C# for a smooth gameplay experience
- Optimized game logic to allow for over 10000 hostile entities

Awards

Natural Sciences and Engineering Research Council of Canada Undergraduate Student Research Award July 2025