

# Jonathan Chan

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## SKILLS

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**Languages:** Python, Java C, C++, JavaScript, TypeScript, C#, Bash, SQL,  
**Frameworks and Technologies:** Git, React, JUnit, HTML, CSS, .NET  
**Relevant Coursework:** Data Structures and Algorithms, Software Construction, Introduction to Computer Systems, Applied Machine Learning

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## EXPERIENCE

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**Software Development Co-op** Sep 2022 – Apr 2023  
*Alida* *Vancouver, BC*

- Transition legacy surveys app to a modern tech stack consisting of React, TypeScript, and Material UI.
- Maintains compatibility of legacy .NET backend with new frontend features.

**Lead Tutorial Teaching Assistant, CPSC 121: Models of Computation** Jan 2022 – Aug 2022  
*University of British Columbia* *Vancouver, BC*

- Solidified understanding of proofs, logic, and number representations by facilitating lab and office hour discussions.
- Taught and summarized techniques clearly using visual references, yielding positive student feedback.

**Volunteer, Molecular Modelling Subgroup** May 2021 – Aug 2022  
*Reid Research Group at UBC* *Vancouver, BC*

- Created Python and Bash scripts to automate and scale previously manual processes on HPC servers.
- Replaced functions of traditionally used GUI applications, leading to greater research throughput.

## PROJECTS

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**Appeal No More, Google SPS 2022** | *JavaScript, Java, HTML, CSS, SQL* Jun 2022 – Jul 2022

- Collaborated closely with a team of peers using Git to approve and merge the development of incremental features.
- Create and configure SQL database and tables on Google Cloud.
- Implemented REST API in Java Servlet backend to query Google Cloud SQL database for complete CRUD operations.
- Utilized Google Cloud Storage libraries to enable image upload and retrieval.
- Created interactive user interface using HTML, JavaScript, and Google Maps API, that made post viewing and editing seamless.

**Friendly Neighbor, BCS Hacks 2022, 5<sup>th</sup>** | *JavaScript, React, HTML, CSS* Mar 2022

- Built interactive post making webapp using React.
- Set up a REST API using JSON Server to enable CRUD operations for posts.
- Created webforms that aid post creation, editing, and deletion, and collaborated changes using Git.

**Conformer Counter** | *Python* Nov 2021 – Dec 2021

- Developed a program that analyzes the geometry of molecules from coordinate files and classifies them.
- Identified an algorithmic approach to problem and implemented a graph search.
- Scaled the challenge of geometry analysis to thousands of molecules to validate the accuracy of a software package.

**Linear Progression Training Program** | *Java, JUnit, Swing* Oct 2021 – Nov 2021

- Developed a weight-training desktop application using OOP principles and implemented a GUI using Swing.
- Wrote JUnit tests and implemented functions in a test-driven manner.
- Implemented data persistence in JSON format.

**Computational Chemistry Tools** | *Python* Nov 2021 – Dec 2021

- Developed CLI applications that automate the process of file conversion.
- Implemented file parsing and read/write exception handling.

## EXTRACURRICULARS

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**Maple CTF 2022, 12<sup>th</sup>/70** | *Python, C, GDB, pwntools, Ghidra* Jan 2022

- Applied understanding of stack memory and function calls to exploit program vulnerabilities for flags.
- Learned to read and follow disassembled C code to determine vulnerabilities in program binaries.

## EDUCATION

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**Bachelor of Computer Science** Sep 2021 – May 2024  
*University of British Columbia* | GPA: 90.4% *Vancouver, BC*

**BSc. Combined Biochemistry and Chemistry** Sep 2015 – May 2020  
*University of British Columbia* *Vancouver, BC*