

# Jonathan Chan

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## SKILLS

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**Languages:** Python, JavaScript, TypeScript, Java, C#, C, C++, Bash, SQL,  
**Frameworks and Technologies:** React, Knockout, jQuery, Jest, Node, Git, HTML, CSS, NUnit, JUnit, scikit-learn

## EXPERIENCE

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**Software Development Co-op** | *React, Knockout, jQuery, C#, TypeScript, JavaScript, Jest, Sinon* Sep 2022 – Apr 2023  
*Alida* Vancouver, BC

- Develops new frontend web interfaces for desktop and mobile using React, Knockout, and jQuery.
- Develops C# .NET and TypeScript backends to support new features.
- Writes frontend interface unit tests using Jest and Sinon.
- Writes backend function focused unit tests using NUnit.
- Collaborates in bi-weekly scrum sprint and sprint planning.

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

- Facilitated laboratory and office hour discussions on concepts in logic and proof.
- Demonstrated proof techniques clearly as a tutorial instructor, yielding positive student feedback.

**Volunteer, Molecular Modelling Subgroup** | *Python, Bash* 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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**AnalyticsAI, Alida Hacks 2023, 2<sup>nd</sup>** | *React, JavaScript, OpenAI API, Whisper API, SQL, CSS* Mar 2023

- Leveraged AI capabilities to build a webapp that converts plain speech to SQL queries to simplify fetching data for end-users.
- Utilized Whisper API to convert speech to text, then passed these as prompts to OpenAI API to generate SQL queries.
- Created a backend endpoint to query database and return the analytics data to be visualized.

**Appeal No More, Google SPS 2022** | *JavaScript, Java, Jakarta Servlet, GCP, SQL, Google Maps API, HTML, CSS* Jun 2022 – Jul 2022

- Built a full stack CRUD webapp utilizing Google Maps API to display posts by location.
- Utilized Google Cloud Storage libraries to enable image upload and download.
- Implemented REST API in Java Servlet backend that queries and updates Google Cloud SQL database.

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

- Created a post making webapp with modal webforms for CRUD operations.
- Performed REST operations using JSON Server as backend and database.

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

- Developed a program that analyzes the molecular simulation outputs by classifying their conformation/geometry.
- Designed classes and methods from scratch, including a graph class to store molecular connectivity.
- Implemented graph search algorithm with vector calculations to look for specific geometry criteria.
- Scaled the task of geometry analysis to thousands of molecules per file for multiple files.

## EXTRACURRICULARS

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**12<sup>th</sup>/70, Maple CTF 2022** | *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