

Jonathan Chan

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SKILLS

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

EXPERIENCE

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 and endpoints to support new features.
- Writes frontend interface unit tests using Jest and Sinon, and backend unit tests using NUnit.
- Collaborates in bi-weekly scrum, sprint planning, and ticket analyses.

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

TabTriage, BCS Hacks 2023, 3rd | *JavaScript, OpenAI API, chrome.tabs API, HTML, CSS* Mar 2023

- Created a Chrome browser extension that uses AI to group and generate labels for tabs.
- Utilized OpenAI API to produce groupings and generate group labels.
- Utilized chrome.tabs API to extract tab data and create tab groups and group labels.

AnalyticsAI, Alida Hacks 2023, 2nd | *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.
- Recognized as top priority of all hackathon projects to be implemented into production.

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 webapp utilizing Google Maps API to display posts by location.
- Wrote backend endpoints to handle all CRUD functions in Jakarta Servlet.
- Configured database tables and formed queries for backend to get and update Google Cloud SQL database.
- Utilized Google Cloud Storage libraries to enable image upload and storage.

Friendly Neighbor, BCS Hacks 2022, 5th | *JavaScript, React, JSON Server, 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

12th/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

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