

Lucy Hao

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Email: lhao03@student.ubc.ca **Phone:** *Redacted* **Citizenship:** USA, Canada

Research Interests theoretical chemistry, physical chemistry, computational chemistry, programming language theory, computer science education

Education **University of British Columbia** Vancouver, British Columbia
B.Sc. Combined Computer Science and Chemistry *Sep. 2019 – May. 2025*
GPA: 80%

Selected coursework

- CPSC 311: Definition of Programming Languages.
- CPSC 322: Introduction to Artificial Intelligence
- CPSC 421: Introduction to Theory of Computing
- CHEM 318: Principles of Catalysis
- CHEM 412: Electronic Structure of Atoms and Molecules
- CHEM 401: Principles of Spectroscopy

Publications **Automated medical chart review for breast cancer outcomes research: a novel natural language processing extraction system.**
Chen, Y., Hao, L., Zou, V.Z., Hollander, Z., Ng, R.T., Isaac, K.V.
BMC Med Res Methodol 22, 136 (2022).

Research Experience **University of British Columbia, Department of Chemistry**
Undergraduate Research Assistant *May. 2024 – current*
Aiding in development of self-driving labs for chemistry.

PROOF Centre, University of British Columbia, Department of Computer Science
Undergraduate Research Assistant *Jan. 2021 – May 2021*
Utilized pre-trained word embeddings, uniquely generated regular expressions and OCR correction algorithm to extract information from structured electronic health records, achieving a validation set accuracy of **91%** with minimal training data. Performed statistical analysis on results, and helped write the Methods, Results and Discussion sections of published paper.

Teaching Experience **Systematic Program Design (CPSC 110)** *Winter 2022*
Systematic Program Design (CPSC 110) *Winter 2021*
Software Construction (CPSC 210) *Summer 2021*
Software Construction (CPSC 210) *Winter 2020*

Industry Experience **Capital One, TIP** New York City, New York
Software Engineering Intern *Summer 2022*

Piloted the use of AWS Device Farm, creating end-to-end tests for Mobile App Verification for the Capital One app and website, as well as finding and relaying five pain points of AWS Device Farm to upper level technical executives.

Microsoft, Garage Vancouver, British Columbia
Software Engineering Intern *Summer 2021*

Aided in development of features for internally requested sandbox tool for the Microsoft Graph API. Helped troubleshoot bugs in preexisting browser based sandbox tool and Microsoft Teams based sandbox tool, documenting fixes and possible solutions for unsolved bugs.

Service and outreach

Dry Lab Co-Lead and Wiki Lead, UBC iGEM *Nov 2023 – Current*
Focussed on leading the dry lab team to create models and tools that are well integrated with our wet lab. Implementing an internal documentation system using practices from open source communities.

Wiki Lead and Dry Lab Member, UBC iGEM *Dec 2022 – Nov 2023*
UBC iGEM is a design team focussed on applying skills from molecular biology, genetics, computational biology and microbiology to conduct research in synthetic biology.

Director of Marketing and Technology, StarHacks *Sep. 2020 – Jan. 2022*
StarHacks is an international non-profit striving to create gender-inclusive spaces in computer science, breaking the stereotype of what it means to be a coder one hackathon at a time.

Director of Marketing, nwPlus *Sep. 2021 – Mar. 2022*
nwPlus is a student-led club supporting aspiring programmers and designers, based out of University of British Columbia.

Mentor, connect-f (nwPlus) *Jul. 2020 – Apr. 2021*
A mentorship program for girls* in tech designed to pair high school students with university students and new grad mentors.

Talks and tutorials

Git, GitHub and Glue *Jan. 2024*
UBC iGEM 2023/24

Intersections of Technology Panel *Jan. 2022*
StarHacks II

Intro to Technical Interviews *Nov. 2021*
HackCamp

Pursuing a Successful Career in CS + Technology *Jul. 2021*

Hacking 4 Community

Intro to NLP

Jun. 2021

Hydrangea Hacks

Intro to Git and GitHub

Jun. 2021

Citro Hacks

Computers and Technology Panel

May 2021

Joy to Job

Intro to Git and GitHub and Intro to Python

Jan. 2021

StarHacks I

[Honours and
Scholarships](#)

Biotalent Canada Student Work Placement Program Grant (\$5,000) *2021*

Alexander Rutherford High School Achievement Scholarship (\$2,500) *2019*