Lucy Hao

Email: lhao03@student.ubc.ca   **Phone**: *403-401-3096*   **Citizenship**: USA, Canada

Research interests

theoretical chemistry, physical chemistry, computational chemistry, computational optimization

Education

University of British Columbia   Vancouver, British Columbia

B.Sc. Combined Computer Science and Chemistry   *Sep. 2019 – May 2025*

GPA: 80%

Selected coursework (* means in progress)

- CPSC 322: Introduction to Artificial Intelligence
- CPSC 302*: Numerical Computation for Algebraic Problems
- CPSC 406*: Computational Optimization
- 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*

Researching the application of Large Language Models (LLMs) and automated planners on generating workflows for self-driving labs.

Advisor: Prof. Jason E. Hein

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.

Advisors: Prof. Raymond T. Ng, Prof. Dr. Kathryn Isaac, Dr. Zsuzsanna Hollander

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

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 browser-based sandbox tool
and Microsoft Teams based sandbox tool, documenting fixes and possible so-
lutions 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. Mentoring first and second year undergrads.

Wiki Lead and Dry Lab Member, UBC iGEM   *Dec. 2022 – Nov. 2023*
Used GROMACS to model protein-of-interest, validating wet lab results.

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   Biotalent Canada Student Work Placement Program Grant ($5,000)   *2021*
scholarships   Alexander Rutherford High School Achievement Scholarship ($2,500)   *2019*