Lucy Hao

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Education

University of British Columbia   Sep. 2019 - Dec. 2024
B.Sc. Computer Science and Chemistry   *cGPA: 3.60/4.33*
- **Coursework:** Definition of Programming Languages, Principles of Catalysis, Principles of Spectroscopy, Electronic Structure of Atoms and Molecules, Statistical Mechanics in Chemistry

Research Experience

PROOF (Prevention of Organ Failure) Centre of Excellence   Jan. 2021 - May 2021
Software Developer Co-op   *Vancouver, Canada*
- Re-implemented a fragile and nongeneralizable natural language processing pipeline to generate a specific algorithm that can extract patient information from any type of clinical note with any set of labels
- Added pre-trained word embeddings, generalizable regular expressions, and an OCR correction algorithm to the pipeline, achieving a validation set accuracy of **91%** on 100 unseen clinical notes
- Published paper as second author: Chen, Y., Hao, L., Zou, V.Z. *et al.* Automated medical chart review for breast cancer outcomes research: a novel natural language processing extraction system. *BMC Med Res Methodol 22*, 136 (2022)
- *Skills:* Python, regular expressions, scispaCy, pandas, Natural Language Processing, Unix, GUI, literature review

Teaching Experience

Systematic Program Design (CPSC 110)   Winter 2021, Winter 2022
Computer Science Teaching Assistant
- Led three labs, graded exams/problem sets, and taught concepts from functional programming and data-driven programming in Racket; received an evaluation score of **90%** during the Winter 2021 term

Software Construction (CPSC 210)   Winter 2020, Summer 2021
Computer Science Teaching Assistant
- Led four labs, invigilated exams, graded exams/final projects, and taught concepts such as test-driven design, design patterns, and object-oriented programming in Java; received a **100%** evaluation score during the Summer 2021 term

Industry Experience

Capital One   Jun. 2022 - Aug. 2022
Software Engineering Intern (TIP)   *New York, United States*
- 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
- *Skills:* Python, Selenium, Java, Appium, AWS

Microsoft   May 2021 - Aug. 2021
Software Engineering Intern (Garage Program)   *Vancouver, Canada*
- Collaborated with six other interns to plan and develop an internally requested sandbox tool that allows users to try out the Microsoft Graph API within Microsoft Teams without technical set-up
- Added static analysis tools and pre-commit hooks, reducing the time to review and approve PRs by over **10 minutes**
- Refactored the code-base by introducing functional programming concepts and abstracting duplicated code, resulting in the removal of over **500+** lines of code
- Communicated with two teams to troubleshoot five bugs and created documentation for possible solutions
- *Skills:* React, Redux, JavaScript, TypeScript, Teams App Development, Microsoft Graph API

Extracurricular Experience

- *Positions:* Dry Lab Co-Lead and Wiki Lead at UBC iGEM *(Nov 2023 - current)*, Wiki Lead and Dry Lab Member at UBC iGEM *(Nov 2022 - Nov 2023)*, Director of Outreach and Technology at StarHacks *(Sep. 2020 - Jan. 2022)*, Marketing Co-Director at nwPlus *(Sep. 2021 - Mar. 2022)*
- *Workshops and Panels:* Joytojob Panelist *(May 2021)*, Citro Hacks Workshop Host *(Jun. 2021)*, Hydrangea Hacks Workshop Host *(Jun. 2021)*, Hacking 4 Community Panelist *(Jul. 2021)*, HackCamp Workshop Host *(Nov. 2021)*