Lucy Hao

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Education

University of British Columbia Sep 2019 - May 2024 (Expected)
Bachelor of Science in Computer Science and Chemistry *cGPA: 3.90/4.33*

- Coursework: Molecular Virology, Intermediate Algorithm Design and Analysis, Computer Systems, Medical Biochemistry

Industry Experience

Microsoft May - Aug 2021
Software Engineering Intern (Garage Program)

- Collaborated with a team of 6 interns to plan and develop a internal team requested feature in React, Redux, and TypeScript which allowed developers to efficiently and easily try out the Microsoft Graph API.
- Presented technical architectural diagrams to developers and developed proof of concepts to decide on technical designs. Added static analysis tools and pre-commit hooks, saving time for PR reviews.
- Led development of the user interface for the Teams App and new internal feature for the Graph Explorer, actively communicating with the Program Manager intern and the UX intern to seek feedback.
- Refactored the Teams App code-base, removing over **500+** lines. Found bug regarding different Microsoft account types within Graph Explorer and had the fix merged into the live production application.

PROOF (Prevention of Organ Failure) Centre of Excellence Jan - May 2021
Software Developer Co-op

- Redesigned a fragile natural language processing pipeline to extract patient information from any type of clinical note. Implemented in Python using pandas, nltk, scispaCy, spaCy, and regular expressions.
- Introduced algorithms to auto-correct optical character recognition errors for Features of Interest (FoI), increasing accuracy for a FoI by **5-10%**.
- Reduced the encoding code-base size by over **50%** through abstraction while increasing pipeline accuracy. Achieved **91%** validation accuracy on a hundred unseen clinical notes.
- Gave weekly presentations to medical professionals, faculty members, and data scientists to show progress on pipeline and request feedback.
- Contributed to and helped publish a preprint on a novel natural language processing software for breast cancer chart review that is currently undergoing preparation for formal publishing.

Teaching Experience

Sytematic Program Design (CPSC 110) Winter 2021
Computer Science Teaching Assistant

- Led labs, graded exams/problem sets, and taught concepts from functional programming and data driven programming in Racket.
- Received 90%+ evaluation score during Winter 2021 term.

Software Construction (CPSC 210) Winter 2020, Summer 2021
Computer Science Teaching Assistant

- Led labs, invigilated and graded exams, and graded final projects, and taught concepts such as Test Driven Design, Design Patterns and Object Oriented programming in Java.
- Received perfect evaluation score during Summer 2021 term.
- Received 80%+ evaluation score during Winter 2020 term.

Skills

- Programming Languages: C, Python, Racket, Java
- Tools: Git, LaTeX, Vim