Billy Pak Lam Lee

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EDUCATION

- **University of Waterloo** — Ontario, Canada
  Honours Bachelor of Mathematics - Third Year — *Sep. 2020 – Aug. 2024*
  - Cumulative GPA: 3.9/4.0
  - Double Major: Computational Mathematics and Combinatorics & Optimization
  - Minor: Computer Science

EXPERIENCE

- **Rhetoricon, University of Waterloo** — Waterloo, Ontario, Canada
  Full Stack Developer Intern (Part-time) — *Jan 2023 - Apr 2023*
  - **Rhetoricon Website**
    * Contributed in the development of a Next.js and TypeScript frontend and a Golang REST API backend for a cognitive linguistic research group's website
    * Created responsive and intuitive interfaces using NextJS components and Material UI.
    * Utilized GitLab pipeline for testing and linting to ensure optimal website performance and maintain high code quality.
    * Streamlined development processes by transitioning the front-end framework from Ant Design to Material-UI.
    * Created a backend endpoint that dissociates an instance with a figure.
- **Hanabusa Japan Real Estate** — Japan (Remote)
  Data Entry Automator — *Sep 2020 - Sep 2021*
  - **Web Scraping and Data Entry Automation, Residential Properties**
    * Extracted residential property information and images from a Japanese real estate website (homes.co.jp) using BeautifulSoup4 and entered them into the company website (hanabusa-realty.com) using Selenium in Python.
    * Saved up to 60 hours of manual labor per month.

PROJECTS

- **Biquadris - C++**
  - Developed a customizable Tetris game variant with adjustable board dimensions and win conditions.
  - Employed the Model-View-Controller (MVC) design pattern for a robust and maintainable architecture.
  - Utilized the Factory Method design pattern to generate unique block configurations for varying levels.
  - Leveraged the X Window System to craft an engaging and user-friendly GUI.
- **Recipe App - Next.js(TypeScript), Node.js, MongoDB, Express**
  - Developed a recipe sharing web application using Next.js, Node.js, Express, and MongoDB, with user authentication and authorization features and the ability for users to save or unsave recipes.
  - Designed and implemented the user interface using Material UI.
  - Used the useContext hook to manage global states.
  - Utilized TypeScript for improved code reliability and type safety.
- **CV Generator - HTML/CSS/JavaScript(React)**
  - Created a webpage that generates a CV using React.
- **Sudoku Solver - Python**
  - Implemented using the backtracking algorithm.
- **RunSuite - Bash Script**
  - Created a Bash script that checks if a given program matches the output of the given test suite.

SKILLS

- **Programming Languages**: Python, JavaScript, TypeScript, Go, C++, C, Bash, HTML, CSS, SQL, Ruby, R, MIPS Assembly, Racket, LaTeX, MATLAB
- **Technologies/Frameworks**: React, NextJS, Node.js, MongoDB, Netlify, Heroku, Redux Toolkit, Styled Components, MaterialUI, Firebase, Selenium, BeautifulSoup4, Git, npm, Webpack, Linux/Unix, Adobe Photoshop, MS Office Suite