Sean Woo

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Education

The University of British Columbia Vancouver, BC
Combined Major in Mathematics and Computer Science Expected Graduation: 2026
Cumulative Average: 90%
Recipient of J Fred Muir Memorial Scholarship in Science 2022 and A.W. Rowe Memorial Scholarship 2021
Relevant Courses: Software Engineering, Object Oriented Design, Data Structures & Algorithms

Experience

Undergraduate Teaching Assistant Sep 2022 - Jan 2024
The University of British Columbia *Vancouver, BC*

- Teaching Assistant for Computer Science and Math Courses (MATH 110, MATH 100, and CPSC 110)
- Supervised labs for over 100 undergraduate students, offering guidance during labs and feedback on problem sets.
- Fostered an inclusive learning atmosphere through patient and empathetic mentorship resulting in 95% student satisfaction on the Student Experience of Instruction survey.

Projects

SleepCode | *React, TypeScript, Tailwind CSS, Firebase*

- Developed a coding challenge platform, enhancing user engagement by implementing an executable coding environment, integrated timer, and embedded youtube solutions.
- Implemented efficient state management, improving application responsiveness and scalability by utilizing Atom for global state management
- Leveraged Firebase for seamless storage of data, and utilized Firebase React Hooks for both efficient data management and secure user authentication.

EcoGlo (Hack the Change 2023) | *React, JavaScript, TypeScript, HTML, CSS*

- Engineered a Chrome extension with a sustainability scoring system for Sephora products, enhancing awareness of product sustainability by retrieving and evaluating product ingredients.
- Implemented Figma wireframes into a dynamic, interactive UI for EcoGlo, incorporating engaging animations.
- Developed a robust Express.js backend, resulting in a 40% reduction in data retrieval and processing time by seamlessly managing web scraping tasks with Puppeteer.

UBC-OCEAN Data Science Club | *Python, Jupyter, Pandas, Scikit-learn, OpenCV*

- Collaborated in a group of 5 for the UBC-OCEAN competition, focused on classifying ovarian cancer subtypes from microscopy scans of biopsy samples.
- Utilized computer vision algorithms to extract meaningful information from complex histopathology images, supporting BC Cancer Agency's mission and improving patient outcomes.
- Applied machine learning techniques to analyze extensive histopathology image datasets, resulting in enhanced ovarian cancer subtype diagnosis.

Brain Stroke Prediction | *Python, Jupyter, Pandas, Scikit-learn*

- Developed high-accuracy stroke prediction models using Python, leveraging SVM, XGBoost, and Random Forest, achieving a 95% accuracy rate.
- Addressed imbalance in the dataset by utilizing Synthetic Minority Over-sampling Technique (SMOTE), enhancing model performance and predictive capabilities.
- Optimized for both accuracy and execution time through thorough model selection, and evaluation.

Technical Skills

Languages: Python, JavaScript, TypeScript, C++, Java, SQL (PostgreSQL), HTML/CSS
Frameworks: React, Node.js, Express, Chai, Mocha.js, JUnit, Scikit-learn, TensorFlow
Tools/Platforms: Git, Docker, Firebase, MongoDB, AWS, Linux
Concepts: Full stack development, Backend, Frontend, Test-driven development Cloud platform services