Jaehong Lee (Jay)

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Technical Skills

- **Languages:** HTML, CSS, JavaScript, C, C++, Java, SQL, MATLAB, LaTeX
- **Frameworks and Libraries:** Node.js, Express.js, React.js, Redux, Bootstrap, Mongoose, Jest, JUnit
- **Technologies and Tools:** Git, Bash, Unix, Linux, Heroku, Render, NoSQL, MongoDB

Work Experience

Samsung Electronics Canada Vancouver, BC

Incoming Frontend Developer Co-op May 2024 – Jan. 2025

- Secured an 8-month co-op position as a Frontend Developer at Samsung Electronics Canada.

Intersystem Controls, Inc. Vancouver, BC

Frontend Developer Co-op Sep. 2021 – Dec. 2021

- Led hotel touch panel frontend development using **HTML**, **CSS**, **JavaScript**, **React**, successfully deployed. [**Image**]
- Integrated **REST API** with **Postman**, improving frontend performance through a **20%** reduction in response time.
- Developed a configurable module, reducing manual input by **80%**, and establishing scalable architecture.
- Ensured component modularization and robustness through comprehensive **Jest** unit testing.
- Collaborated with UX/UI designer and participated in interviews, showcasing strong communication and contribution.

Technical Projects

GrabPencil.com Sep. 2023 – Present

- Developed **Node.js**-based backend **REST API** to facilitate CRUD operations for tutoring job postings.
- Designed **MongoDB** database search feature with extensive filters, increasing tutor finding efficiency by **70%**.
- Implemented stateless **JWT**-based authentication, ensuring data integrity and preventing tampering.
- Utilized **Socket.io** for chatting system, resulting in real-time communication and enhanced user engagement.
- Conducted backend API endpoint testing using **Jest** and **Supertest** for comprehensive validation and reliability.

Advanced Smoke Detector Jul. 2023

- Optimized the General Matrix Multiply algorithm on a 10-core X86 CPU using **C** for increased efficiency.
- Employed data tiling optimization with a tile size of 16, achieving a speedup of **8.56x**.
- Implemented X86 SIMD intrinsics for vectorization with data tiling, resulting in a **61.94x** speedup.
- Applied OpenMP multithreading for parallelization, with data tiling and vectorization, achieving a **515.35x** speedup.
- Integrated loop unrolling with the three optimizations, resulting in a **649.53x** speedup (**8 minutes** to **0.739 seconds**).

Hardware-Aware Software Optimization Jul. 2023

- Optimized the General Matrix Multiply algorithm on a 10-core X86 CPU using **C** for increased efficiency.
- Employed **data tiling** optimization with a tile size of 16, achieving a speedup of **8.56x**.
- Implemented **X86 SIMD intrinsics** for vectorization with data tiling, resulting in a **61.94x** speedup.
- Applied OpenMP **multithreading** for parallelization, with data tiling and vectorization, achieving a **515.35x** speedup.
- Added **loop unrolling** to the three optimizations, resulting in a **649.53x** speedup (**8 minutes** to **0.739 seconds**).

Education

Simon Fraser University Burnaby, BC

Bachelor of Applied Science in Computer Engineering, Co-op (BASc) Sep. 2019 – Aug. 2025

Certificates

Udemy Online Courses

- JavaScript: Understanding the Weird Parts Dec. 2023
- The Complete Node.js Developer Course (3rd Edition) Feb. 2023
- The Complete JavaScript Course 2024: From Zero to Expert! May 2021
- Modern HTML & CSS From The Beginning (Including Sass) Sep. 2020