Liam Jay

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Education

Saint Mary's University — Halifax, Nova Scotia
Bachelor of Science, dual major in Computer Science, Mathematics — *Sept. 2023 – Present*

Hiroshima University — Saijō, Hiroshima
Special Auditing Student, School of Informatics and Data Engineering — *Sept. 2024 – Aug. 2025*

Technical Skills

Languages: Java, Python, C++, Go, GD Script
Frameworks/Libraries: TailWindCSS, React
Developer Tools: Git, VS Code, Visual Studio, PyCharm, IntelliJ, Atom, GoLand, CLion, LLVM
AI Tools: Claude 3.7 Sonnet, Cursor, ChatGPT, Deepseek-R1, ollama, v0

Experience

Frontend Developer — ntsunema — Apr. 2025 – Aug. 2025
Hiroshima University — *Higashihiroshimashi, Hiroshima*
- Maintain and update a professor's personal academic website using React, HTML, and CSS
- Work with the Cuttlebelle static site generator framework to manage content and modular component templates
- Collaborate in a multilingual academic environment, ensuring clarity and usability for both Japanese and English-speaking audiences

Undergraduate Teaching Assistant — Jan. 2024 – Apr. 2024
Saint Mary's University — *Halifax, NS*
- Supported instruction for 30+ students in a Python-focused programming fundamentals course
- Evaluated assignments, tests, and exams under strict deadlines while maintaining accuracy and fairness
- Delivered actionable, code-level feedback to help students improve logic, structure, and readability
- Collaborated with faculty and upheld academic standards in a fast-paced, detail-oriented environment

Service Learning Engineer, Team Lead — Jan. 2024 – Apr. 2024
Saint Mary's University — *Halifax, NS*
- Led a team in creating accessible web pages using HTML and Tailwind CSS for a client with a vision disability
- Organized team meetings, managed time logs, and ensured consistent progress across contributors
- Oversaw source code integration and provided feedback to maintain clean, functional, and user-friendly design
- Handled all project submissions and ensured on-time delivery of all milestones
- Guided the team to academic success; all members earned an A+ for the project

Projects

Cobalt Compiler (Ongoing) | *C++, LLVM* — Apr. 2025 – Present
- Designing and developing a C++-based compiler for the Cobalt programming language, focusing on compiler theory and language design
- Built a custom lexer and parser to support language syntax, without relying on code generation tools
- Implemented a custom Abstract Syntax Tree (AST) for efficient code representation and manipulation
- Utilized LLVM for backend code generation (still in early stages, focusing on IR generation and optimization)

25lang Interpreter (Ongoing) | *Java* — Nov. 2024 – Present
- Developed an interpreter for the 25 programming language in Java, featuring a fully functional REPL
- Implemented dynamic type inference and support for basic data types such as INT, FLOAT, BOOL, and NULL
- Allowed mutable variable declarations and updates, enabling operations like x = x + 1
- Built a working evaluator that processes and computes expressions dynamically
- Gained experience in interpreter design, language implementation, and Java development

Media

Japanese speech nets national prize for computing science student — May 2024
Embassy of Japan in Canada/SMU News — *Ottawa, ON*
- National level award recipient at contest for Japanese-as-L2 speakers. smu.ca/news/computer-science-student-japanese.