

# Vicky Nguyen

*Quick learner and challenge enthusiast striving  
for excellence and growth.*

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## Languages and Tools

**Proficient:** C++, Python, Git, Linux, Vim, Bash, LLVM, MLIR, SQL

**Also good at:** C, JavaScript, Java, Flask

## Experience

### d-Matrix - MLIR Compiler Developer

*Oct 2023-Present/Vancouver, BC Canada (Remote)*

- Developing compiler software to accelerate LLMs on d-Matrix architecture.
- Contributed to multiple projects including enabling Block Floating Point numbers, supporting internal dialect operations, modifying PyTorch LLM models (GPT2, BERT, etc.), verifying compiled outputs against PyTorch references, and developing a POC auto codegen for a hybrid compiler.

### IBM - C/C++ Compiler Developer Intern

*Sep 2022-Dec 2022/Markham, ON Canada*

- Developed a C/C++ compiler for IBM zSystems & Power using C++, Clang/LLVM, Opt tool, LLVM IR, Bash, and Git, with testing on Linux, AIX, and z/OS.
- Ran SPEC benchmarks to evaluate compiler performance via runtime percentage differences and statistics.
- Worked on several loop optimizations, focusing on ISS—an approach that removes branches by splitting iteration ranges.
- Helped develop an internal Git Bisect tool and presented it at a compiler educational session. Cut debugging time significantly and was adopted by many teams.

### University of Victoria - Teaching Assistant

*Jan 2022-Apr 2022, Jan 2023-Apr 2023/Victoria, BC Canada*

- Assisted first and second year students in Algorithms–Data Structures, programming (C, C++, Python, Java), Web Development, and Computer Architecture courses.
- Guided students in understanding theories, programming, debugging, and problem solving.
- Delivered a 50-minute guest lecture on Flowcharts and Computational Thinking for a first-year CS course, facilitating discussions and exercises.

### BlackBerry - Open Source Developer Intern

*Sep 2021-Dec 2021/Mississauga, ON Canada*

- Ensured open-source compliance by developing Python/PostgreSQL tools that streamlined analysts' scanning tasks.
- Optimized code with dynamic programming and multithreading, cutting runtime from about 10 hours to a few.
- Designed and implemented a database schema and automated populating entries with database information, reducing files for review from thousands to dozens.

### Helm Operations - Full Stack Software Developer Intern

*Jan 2020-Aug 2020/Victoria, BC Canada*

- Developed product features and resolved production bugs using JavaScript, Knockout.js, and HTML/CSS.
- Built APIs and tests with .NET, SQL Server, and JavaScript.
- Implemented end-to-end tests with Puppeteer to reduce QA workload.

## Education

### Bachelor of Computer Science - Honours

*8.15/9 GPA*

- University of Victoria. Graduated with distinction in May 2023.

### Activities

- President, UVic Competitive Programming Club (Jan 2021–Sep 2022)
- Competitor, ICPC (2019–2022); Rank **#1** on UVic open.kattis.com
- 2<sup>nd</sup> National Prize, Vietnam Secondary Student Science and Engineering Fair (2016–2017)