

WILLIAM CLUBINE

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PROFESSIONAL EXPERIENCE

Intel Corporation

Software Engineer, Intern

May 2023 – August 2024

Toronto, ON, Canada

- Worked alongside a team in the Programmable Solutions Group (PSG) developing core systems and proprietary databases for the Quartus Prime FPGA design suite using C++, Python, Java, Perl, and Tcl
- Earned recognition from a Senior Director and 2 features in an internal newsletter for significant contributions to critical software features spanning multiple teams
- Created APIs and code generation tools enabling interaction with internal databases in 4 languages
- Reduced runtime issues by over 80% for some customers through code analysis and targeted optimizations
- Enhanced IP caching features with new analytics and automated performance measurement
- Improved product stability by implementing checksums during database serialization, introducing new netlist legality checks, and resolving rare inter-process synchronization issues

BDO Canada (Lixar)

Full-stack Developer, Intern

May 2022 – August 2022

Oakville, ON, Canada

- Contributed to the development of a data entry and reporting web application serving 4 international clients by utilizing TypeScript, Angular, C#, .NET Core, and Entity Framework
- Significantly boosted developer productivity by pioneering a new internal framework, streamlining the implementation of key features across projects
- Optimized manual workflows by producing automation scripts in Python to import and process client data

EDUCATION

McMaster University

Honours Computer Science Co-op (B.A.Sc.)

September 2021 – April 2026

Hamilton, ON, Canada

- 3.7 GPA, appeared on the Deans' Honour List
- Received the Engineering Award of Excellence
- Competed in the 2022 International Collegiate Programming Competition (ICPC)

PROJECTS

Billiards Simulation Engine | TypeScript

June 2024 – Present

- Implemented a realistic billiards physics simulator in TypeScript using a continuous event-based evolution algorithm to achieve highly accurate dynamics
- Optimized simulation and playback methods for efficient server-client replication
- Developing online multiplayer functionality with skill-based matchmaking

Productivity App | Dart, Flutter, Firebase

September 2022

- Developed a serverless productivity app featuring task management, goal tracking, journaling, and pomodoro timers, designed with user feedback to address challenges faced by students
- Used Flutter to design an intuitive user interface compatible with both mobile and web applications
- Integrated Firebase for authentication and data synchronization across platforms

Maze Generation Tool | Python

July 2022 – October 2022

- Developed a Python script for generating mazes as a PNG or GIF with the Python Imaging Library
- Implemented an adapter pattern to allow users to easily select from 4 generation algorithms
- Automated the build and release process for Windows, Linux, and macOS with GitHub Actions

TECHNICAL SKILLS

Languages: C++, Python, JavaScript, TypeScript, Lua, Luau, C#, SQL, Java, Dart, Haskell, HTML/CSS, \LaTeX

Frameworks: Angular, React, SvelteKit, Flutter, Node.js, Express.js, tRPC, Bootstrap, .NET Core, Entity Framework

Tools: MongoDB, Prisma, Firebase, Cloudflare, DigitalOcean, Linux, Git, GitHub, Perforce, Azure DevOps, Jira