Felix Fong

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Enthusiastic Software Engineer with proficiency in leadership, web design, competitive programming, and educating.

Experience

Intel Corporation May 2023 – August 2024
Software Engineer - PEY Intern at Intel *Toronto, ON*

- Collaborated in a team of **6** on Quartus Static Timing Analysis (STA) and Synopsis Design Constraints (SDC) for the Quartus Field Programmable Gate Array (FPGA) Compiler primarily using C++.
- Designed and implemented an architecture to resolve a critical bug in SDC on RTL by performing **control flow analysis** and leveraging dependency injection to maintain architectural boundaries.
- Proposed and developed a graph propagation algorithm to improve the reliability of **11** SDCs by iterating on stake holder input from **21** UML and flow chart diagrams that impacted **6** subsystems.
- Developed SDC unit testing infrastructure, achieving a **0% to 94.7%** code coverage improvement.
- Facilitated in removing **3562** lines of technical debt, resolving several bugs and seeing approximately **100%** productivity improvements in SDC development.

Deltahacks November 2022 – Present
Technical Executive *Hamilton, ON*

- Streamlined the hackathon evaluation process by creating a full stack comprehensive review program, enabling efficient grading of **1365** participants by leveraging the **T3 stack** with shadcn/ui and prisma ORM.
- Redesigned a relational database schema, seeing a **37.5%** improvement in storage efficiency and around **50%** increase in productivity by leveraging 3NF and ER diagrams.
- Facilitated event scheduling by developing a robust schedule page that successfully managed **1522** sessions over **3** days, resulting in improved participant experience and smoother event coordination.

McMaster Competitive Programming Club August 2022 – April 2023
Vice President of Training *Hamilton, ON*

- Taught advanced data structures and algorithms in Python in anticipation for the **International Collegiate Programming Contest** (ICPC).
- Hosted an Intel sponsored competition for **$150** in prize money resulting in **35** participants.

McMaster Department of Computing and Software May 2022 - August 2022
Research Assistant *Hamilton, ON*

- Facilitated with implementing the **ChaCha20-Poly1305** encryption algorithm using **Haskell**.
- Created a data analysis tool that fits **600** data points to probability distributions to identify key insights utilizing scipy and numpy libraries.

Projects

Path Finding Sandbox | *Typescript, ReactJS, ViteJS, Tailwind* August 2022 – Present

- Developed a **graph theory** path finding visualization tool to visualize **6** algorithms

Technical Skills

Languages: C/C++, TCL, Perl, Typescript, Javascript, HTML, CSS, Rust, Elm, Python, Java, Haskell, Bash, SQL

Libraries and Frameworks: ReactJS, JSX, Tailwind, NextJS, Bootstrap, Java Swing, shadcn/ui, Prisma ORM, Axios, NodeJS, ViteJS, MongoDB, Payload CMS

Developer Tools: GitHub, Git, Jira, Perforce, Linux, Apache Maven, Google Cloud

Education

McMaster University | 3.9 GPA September 2021 – April 2026
Candidate for Bachelor of Applied Science, Computer Science *Hamilton, ON*

Achievements

McMaster Faculty of Engineering – **Engineering Award of Excellence Scholarship ($3000)** June 2021
Bur Oak Secondary School – **Award of Merit for Grade 12 Data Management** June 2021
Euclid Waterloo Math Contest – **Certificate of Distinction (Top 25%)** May 2021