MATTHEW GIBSON

Phone: +1 (613) 850-9839 **Email:** matt@mgibson.ca **Github:** https://github.com/chemiseblanc

LinkedIn: https://www.linkedin.com/in/matthew-gibson-701144106/

SUMMARY

Highly skilled Software Developer pursuing a Ph.D. in Mechanical Engineering. Utilises 8+ years of experience to craft high-performance applications in computational science and engineering. Proven ability to design, develop, and deploy desktop and web applications. Possesses expertise in SQL database systems and a strong foundation in RESTful API design.

SKILLS

C++ | Python | CMake | C | CUDA | Qt | Docker | Linux | Git | HTML | CSS Javascript | Typescript | React | Django | SQL | Jenkins | AWS | Postgres | SDLC | Multithreaded programming | Unit Testing | Service Oriented Architecture | Microservice Architecture | API Design | DevOps | CI/CD

EXPERIENCE

Sole Proprietor

Gibson Technology Solutions   Aug 2023 – Present

- Provides software consulting and custom development services for Computer-Aided Engineering (CAE) packages using C++ and Qt while following Agile principals.
- Works with legacy C++ codebases to determine their current capabilities and how to proceed with development to achieve desired functionality with minimal re-architecting and new development.

Software Engineer

Goldak Technologies Inc.   May 2019 – Aug 2023

- Successfully ported the primary software product written in C++ to run in cross-platform Linux and Windows environments for increased user accessibility
- Led the adoption of industry standard build and version control tools (CMake and Git) to replace legacy in-house tooling, automating version control workflows for employees and reducing the time spent fixing build system issues.
- Established a CI/CD platform using Git and Azure DevOps for automatically updating the software product on internal workstations, shortening the test-debug-patch development cycle.
- Designed the architecture for and led the development of a new, intuitive user interface written in C++ and Qt for the primary software product, reducing problem setup time and increasing user productivity.
- Provided direct technical assistant to customers, ensuring successful software adoption and resolving any user issues in a timely manner.
- Implemented state of the art algorithms in C++ and CUDA for computational solid mechanics and heat transfer using the finite-element method

- Developed a web-based software licensing and distribution system based on a microservice architecture using a Python, Django and Golang on top of a Postgres SQL database.
- Migrated application deployment to a containerized environment using Docker
- Assisted other software developers with fixing software bugs
- Aided management to gauge the scope and feasibility of proposed new development
- Maintained and performed incremental re-architecting of a legacy C++ application to better fit current business requirements.

Research Associate

Carleton University   Oct 2015 – May 2019

- Conducted research within a team focused on advancements in computational welding mechanics.
- Prototyped algorithms for fluid-solid interaction in Python and C++
- Replicated and debugged implementations of algorithms for smoothed-particle hydrodynamics in C++ and CUDA

EDUCATION

Doctorate of Philosophy – Mechanical Engineering

Carleton University | Ottawa, ON   Sep 2018 – Present

Thesis: A Three-Dimensional Arc Model for Gas-Metal Arc Welding Processes

Bachelors of Science – Physics-Mathematics

University of Ottawa | Ottawa, ON   Sep 2013 – April 2018