

THIBAUT BAGUETTE

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EDUCATION

B.ENG. SOFTWARE ENGINEERING CO-OP

MCGILL UNIVERSITY

SEP 2021 - MAY 2025 (EXPECTED)

- CGPA: 3.96/4.0
- Selected for the Dean's Honour List for the first and second years
- Recipient of multiple merit-based scholarships, including the Les Vadasz Award in Engineering and the Faculty of Engineering Scholarship.

TECHNICAL SKILLS

- Programming languages: Rust, C++, Python, Java, C, JavaScript
- Development Tools: Command line (Bash/Windows cmd), Unreal Engine 5, Unity, Docker, Github Actions (CI/CD)
- Teamworking tools: Git, GitHub, Jira
- Databases: PostgreSQL, SQL scripting

SOFTWARE ENGINEERING EXPERIENCE

PROGRAMMER

GAMEDEV MCGILL (CLUB, MCGILL UNIVERSITY)

SEP 2023 - PRESENT

C++ · Unreal Engine 5 · Game Development

- Joined McGill's game development club as a programmer to work on larger projects in teams with other students.

RESEARCH ASSISTANT

RELIABLE SILICON SYSTEMS LAB (PROF. BRETT H. MEYER, MCGILL

MAY 2023 - AUG 2023

UNIVERSITY)

Python · Tensorflow · Machine Learning · Computer Vision

- Implemented computer vision models from published papers in Python with Tensorflow.
- Developed a C++ application using a computer vision model to process a video feed in real time.
- Processed quantized neural networks using specialized tooling for use on a development board.
- Set up a development board for research and development uses.

GIS SOFTWARE DEVELOPER INTERN

FUJITSU (REMOTE)

MAY 2022 - JULY 2022

Fullstack · JavaScript · Node.js · Webapp · PostgreSQL · Webpack · Yarn

- Successfully developed a proof-of-concept indoor routing web application in JavaScript/Node.js.
- Connected a front-end web application to a PostgreSQL database running on an Ubuntu Docker container.
- Identified the most efficient technologies concerning what format the geographic data should be encoded in, which JavaScript libraries and which routing engine to use.

SOFTWARE ENGINEERING PROJECTS

C++ RAYTRACER



JULY 2024 - AUG 2024

Ray tracing · C++ · CMake · Computer Graphics · Real-time 3D Rendering

- Developed a real-time ray tracer in C++ using ImGui, GLM, and CMake.
- Implemented basic shapes, materials, lighting, and camera movement, with file loading and saving for scene descriptions.
- Added advanced features such as signed distance field based geometry and physically based materials and rendering.

CRYPTRAIDER PUZZLE GAME



JUNE 2024

Unreal Engine 5 · C++ · Pubble Game · Game Dev · Graphics

- Created an immersive puzzle game with Unreal Engine 5 and C++.
- Learned multiple UE C++ concepts such as geometry sweeping, physics handles, and implementing C++ interfaces in Blueprints.

OBSTACLEASSAULT 3D PLATFORMER GAME



JUNE 2024

Unreal Engine 5 · 3D Platformer · Game Dev · C++

- Created a 3D platformer game in Unreal Engine 5 using C++ and Blueprints.
- Learned multiple Blueprint concepts such as interfaces and event dispatchers.

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PORTFOLIO WEBSITE (V2)

MAY 2024

Rust · Leptos · WebAssembly · Tailwind CSS · Responsive Design · i18n · Static Site Generator

- Created a custom static site generator single-page application in Rust using Leptos, which complies to WebAssembly.
- Developed a website with responsive design, using internationalization principles to support both English and French.
- Implemented a system to automatically fetch content from a repository using the GitHub API, allowing for easy updates to the website.

C COMPILER

JAN 2024 - APR 2024

C · Compiler · Java · MIPS Assembly

- Complete compiler for a subset of the C language written from scratch in Java.
- Hand-wrote a lexer, a parser, a semantic analyzer, a code generator, and a register allocator.
- Support for object oriented programming features such as inheritance and polymorphism.

PYTHON RAYTRACER

MARCH 2024

Ray tracing · Python · Computer Graphics · Rendering

- Developed a raytracer in Python able to produce complex images from 3D scene descriptions.
- Implemented support for primitive shapes, hierarchic structures, triangle mesh rendering, and constructive solid geometry.
- Supported effects such as anti-aliasing, reflection, refraction, motion blur, depth of field, and texture mapping.

ROLL-A-BALL?

SEP 2023

Unreal Engine 5 · Game Development · C++ · Blueprints

- Created a small top-down game in Unreal Engine 5 using C++ and Blueprints.
- Familiarized myself with the Enhanced Input Plugin as well as animations in UE5.
- Developed a game in a few days to apply to the GameDev McGill club.

THE AMULET OF SIRREF

JUN 2023 - JUL 2023

Rust · Game Development · Web Assembly

- Developed a roguelike game in Rust using the Bracket-lib library and Legion ECS.
- Implemented a procedural map generator, a turn-based combat system, and a simple enemy AI.
- Released the game publicly as a web assembly application, playable from virtually any device with a keyboard.

PURPOSEFUL

JAN 2023 - APR 2023

Java · JavaScript · Spring · Next.js · PostgreSQL · Gherkin

- Developed a web application that allows users to share project ideas and find collaborators.
- Worked as part of a team of 10 developers over two sprints to deliver a fully functional application.
- Managed the project's development using the scrum framework with a product owner and a scrum master.
- Implemented advanced features such as OAuth2 authentication using Spring Security and JWT Tokens.

MUSEUM MANAGER

OCT 2022 - DEC 2022

Java · TypeScript · Spring · Next.js · PostgreSQL

- Created a webapp for managing a museum's items, employees and customers.
- Developed a modern webapp from the domain model design and the Java backend using Spring and a PostgreSQL database to the frontend using TypeScript and Next.js.
- Collaborated in a team of 6 developers using GitHub Issues and GitHub Projects to manage the development.

LANGUAGES (SPOKEN AND WRITTEN)

English (professional proficiency), French (native), Spanish (beginner), German (beginner).