

Emilien Breton

EDUCATION

University of Ottawa

BSC WITH HONOURS IN COMPUTER SCIENCE

September 2021 — Expected December 2025

PROJECTS

🔗 Personal Website

A PORTFOLIO FOR SHARING VARIOUS PROJECTS

JavaScript • HTML • CSS • Markdown • NextJS

- Designed and implemented appealing UI and optimized UX resulting in over 1500 unique visitors a month
- Utilized caching system and optimized site-wide accessibility resulting in Lighthouse score consistently over 95%

🔗 Stack-Based CPU

ASSEMBLER AND EMULATOR FOR A CUSTOM STACK-BASED CPU ARCHITECTURE

Rust • Assembly

- Wrote stack-based emulator that supports 44 CPU instructions and graphics through 32x32 grayscale display buffer
- Wrote assembler with macro support resulting in approximately 10% smaller Assembly source files
- Proved custom instruction set Turing complete through 🔗 implementation of Conway's Game of Life from scratch in Assembly language

🔗 DBLess Password Manager

A HASH-BASED, DATABASE-LESS PASSWORD MANAGER

Python • JavaScript • HTML • CSS • NextJS

- Developed 🔗 custom cryptographic procedure based on SHA-256 to implement trustless password manager that does not utilize a database
- Built 🔗 cross-platform PWA that reproducibly generates passwords on demand and copies them to the user's clipboard for convenience

More on 🔗 GitHub and in 🔗 Portfolio

EXTRACURRICULAR

🔗 Legacy Protocol

JavaScript • React • Rust

SUBMISSION FOR DEFI THE CONVENTIONAL 2022

March 18th 2022 — March 20th 2022

- Won first place in Finance category of Canada's largest DeFi hackathon along with 2500\$ prize as part of a 3-member team
- Built fully functional 🔗 MVP frontend and backend layers within tight 36-hour timeframe thanks to efficient collaboration and teamwork under pressure

Group Chat Moderator

COURSE-SPECIFIC DISCORD SERVER CREATOR, OWNER AND MODERATOR

University of Ottawa

- Built, promoted, organized and maintained 5 Discord servers allowing over 500 students to find course material easily and collaborate efficiently
- Ensured seamless experience for all members by creating 🔗 Discord bot to help with moderation

June 2022

CONTACT

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📄 https://emilien.ca/
PORTFOLIO

🐙 github/
Bricktech2000

🌐 linkedin/in/
emilien-breton

TECHNOLOGIES

Programming Languages

Python • Rust • JavaScript • C++

Development Tools

Linux • Vim • Git • GitHub

Frameworks

React • NodeJS • Next JS • Express

Other Technologies

HTML • CSS • JSON • Markdown • LaTeX • C • Assembly • Raspberry Pi • Arduino

OTHER

Languages

French • English • Spanish

Interests

Electronics • 🔗 Robotics • 3D Printing • 🔗 Drone Building • Stocks & Investing • Music

github.com/Bricktech2000/Resume