

Emilien Breton

PROJECTS

🔗 Personal Website

A PORTFOLIO FOR SHARING VARIOUS PROJECTS

JavaScript • HTML • CSS • Markdown • Next.js

- Designed and implemented appealing UI and optimized UX using Google Search Console resulting in over 1500 unique visitors a month
- Utilized Cloudflare 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 in Rust 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 • Next.js

- Developed 🔗 custom cryptographic procedure based on SHA-256 to deterministically generate passwords on demand instead of encrypting them
- Built 🔗 cross-platform PWA that generates passwords and copies them to user's clipboard for convenience

More on 🔗 GitHub and in 🔗 Portfolio

EXTRACURRICULAR

🔗 Legacy Protocol

March 18th 2022 – March 20th 2022

SUBMISSION FOR DEFI THE CONVENTIONAL 2022

JavaScript • React • Rust

- 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 React frontend and smart contract backend layers within tight 36-hour timeframe thanks to efficient teamwork under pressure

CS Club Organizer

June 2022 – Present

PROMOTED TO AN ORGANIZER OF UOTTAWA'S COMPUTER SCIENCE CLUB

University of Ottawa

- Collaborated with other students in a team of 3 to organize various small-scale social events and meetups in Ottawa

Group Chat Moderator

COURSE-SPECIFIC DISCORD SERVER CREATOR, OWNER AND MODERATOR

University of Ottawa

- Built, promoted, organized and maintained five Discord servers allowing over 500 students to find course material easily and collaborate efficiently
- Improved moderation experience by creating 🔗 Discord bot to address groups of students based on sets of criteria, extending capabilities of Discord mentions

EDUCATION

University of Ottawa

BSC WITH HONOURS IN COMPUTER SCIENCE

Dropped out after first year

August 2022

CONTACT

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TECHNOLOGIES

Programming Languages

Python • Rust • JavaScript • C++

Development Tools

Linux • Vim • Git • GitHub

Frameworks

React • Node.js • Next.js • Express.js

Other Technologies

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

OTHER

Languages

French	Native
English	Native
Spanish	Intermediate
Russian	Elementary

Interests

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

github.com/Bricktech2000/Resume