

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 with Next.js that generates passwords on demand and copies them to user's clipboard for convenience

More on 🔗 GitHub and in 🔗 Portfolio

EXTRACURRICULAR

🔗 Legacy Protocol

SUBMISSION FOR DEFI THE CONVENTIONAL 2022 *March 18th 2022 — March 20th 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 🔗 MVP smart contract backend from scratch in Rust with no prior experience in Web3, all within tight 36-hour timeframe

CS Club Organizer

PROMOTED TO AN ORGANIZER OF THE UOTTAWA COMPUTER SCIENCE CLUB *June 2022 — Present*
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 and promoted eight Discord servers allowing total of over 1000 students to communicate with their peers and share resources easily
- Improved moderation experience by creating 🔗 Discord bot to address groups of students based on specific criteria, extending capabilities of Discord mentions

EDUCATION

University of Ottawa

BSC WITH HONOURS IN COMPUTER SCIENCE *Dropped out after first year*

September 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	<i>Native</i>
English	<i>Native</i>
Spanish	<i>Intermediate</i>
Russian	<i>Elementary</i>

Interests

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

github.com/Bricktech2000/Resume