

# 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

## CONTACT

 Ottawa, Ontario

 (613) 913-9909

 mail@emilien.ca

 <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 • 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

