

# 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 implement trustless password manager that does not employ a database
  - Built 🔗 cross-platform PWA that reproducibly generates passwords on demand instead of storing them and copies them to the 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 fully functional 🔗 MVP React frontend and smart contract backend layers within tight 36-hour timeframe thanks to efficient teamwork under pressure

### CS Club Organizer

- PROMOTED TO AN ORGANIZER OF UOTTAWA'S 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, 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*

June 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](https://github.com/Bricktech2000/Resume)