# Emilien **Breton**

## EXPERIENCE

**Zeptile Software**                                                      *October 2022 — Present*
SOFTWARE ENGINEER                                                        *Remote from Ottawa*

Currently working on a small-scale project for a client and getting up to speed with various technologies such as Web3 programming in Solidity, testing using Chai and Hardhat and keeping track of tasks using GitHub Projects.

## 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                                          *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 🔗 MVP smart contract backend from scratch in Rust with no prior experience in Web3, all within tight 36-hour timeframe

### CS Club Executive                                                   *June 2022 — Present*
PROMOTED TO AN EXECUTIVE OF THE UOTTAWA COMPUTER SCIENCE CLUB              *University of Ottawa*

- Collaborated with students in a team of 3 to organize various small-scale social events and meetups in Ottawa by creating and giving talks and designing posters using Figma
- Took initiative in wide variety of tasks such as redesigning our logo using using Figma, updating outdated information on our 🔗 website, refreshing our 🔗 Discord server, creating an internal Notion workspace to improve short-term plannig, and more

### 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 flexibility of Discord mentions

## EDUCATION

### University of Ottawa
BSC WITH HONOURS IN COMPUTER SCIENCE                                    *Dropped out after first year*

## CONTACT

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## SKILLS

**Programming Languages**

Python • JavaScript • Rust • C++

**Development Tools**

Linux • Neovim • 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