

# Emilien Breton

## EXPERIENCE

### Zeptile Software

SOFTWARE ENGINEER — WEB3

Remote from Ottawa | October 2022 — Present

- Working on small-scale project and getting up to speed with various technologies such as Web3 programming in Solidity and testing using Chai and Hardhat.

## VOLUNTEERING

### Hack the Hill

DEVELOPMENT MANAGER — DEVELOPMENT TEAM

Ottawa | May 2023 — Present

DEVELOPMENT COORDINATOR — DEVELOPMENT TEAM

Ottawa | November 2022 — May 2023

- Contributed in developing open-source participant tracker built with Next.js and Prisma, used by over **1000 hackers** and **50 organizers** throughout hackathon.
- Collaborated with infrastructure and sponsorship teams to build and maintain internal payment portal powered by Stripe and React.js, allowing for over **20 000\$** in sponsor payments to be processed.

### uOttawa CS Club

CLUB EXECUTIVE

University of Ottawa | June 2022 — Present

- Collaborated with both other executives to brainstorm, organize and schedule a dozen events by giving talks and organizing workshops for over **100 students**.
- Reorganized Discord server of over **1000 members** by creating clearer roles and introduction channels, improving user experience and onboarding.

## 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 **5000 unique visitors** a month.
- Leveraged Cloudflare caching system and optimized site-wide accessibility resulting in Lighthouse score consistently over **95%**.

### Atto-8 Microcomputer

A MINIMALIST 8-BIT MICROCOMPUTER WITH STACK-BASED MICROPROCESSOR

Rust • Assembly

- Implemented optimizing assembler, elementary disassembler and instruction-level emulator in Rust for custom stack-based architecture.
- Proved instruction set Turing complete through implementation of Conway's Game of Life from scratch in Assembly.
- Working on building microcomputer physically using 74HC-series logic chips and 3D-printed parts.

### DBLess Password Manager

A HASH-BASED, DATABASE-LESS PASSWORD MANAGER

Python • JavaScript • HTML • CSS • Next.js

- Devised custom cryptographic procedure based on SHA-256 to deterministically generate passwords on demand without requiring encryption or password storage.
- Built cross-platform PWA with Next.js used by over **50 accounts** that loads 2FA tokens, generates passwords and copies them to user's clipboard for convenience.

### Legacy Protocol

SUBMISSION FOR DEFI THE CONVENTIONAL 2022

March 2022 | JavaScript • React • Rust

- Won **first place** in Finance category of Canada's largest DeFi hackathon along with **2500\$ prize** as part of 3-member team.
- Built MVP smart contract backend and API from scratch in Rust with no prior experience in Web3, all within tight 36-hour timeframe.
- Worked in collaboration with Terraform Labs post-hackathon to officialize our protocol and secure additional funding prior to Terra Luna collapse.

More on GitHub and in Portfolio

## CONTACT

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## SKILLS

### Programming Languages

Rust • Python • C • JavaScript

### Development Tools

Linux • Neovim • Git • Fish • GitHub • Docker

### Frameworks

React • Next.js • Node.js

### Other Technologies

HTML • CSS • JSON • YAML • Markdown • LaTeX • C++ • Assembly • Raspberry Pi • Arduino • VS Code • Figma • Notion • Cloudflare

## OTHER

### Spoken Languages

• French Native  
• English Native  
• Spanish Intermediate  
• Russian Elementary

### Interests

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