# **Emilien Breton**

## **EXPERIENCE**

#### Zeptile Software

SOFTWARE ENGINEER - WEB3

Remote from Ottawa | October 2022 - Present

• Implemented various smart contracts in Solitidy as per specification and ensured **100% test coverage** through Chai and Hardhat.

# **VOLUNTEERING**

## @ Hack the Hill

DEVELOPMENT MANAGER - DEVELOPMENT TEAM

Ottawa | May 2023 — Present

DEVELOPMENT COORDINATOR - DEVELOPMENT TEAM

Ottawa | November 2022 — May 2023

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

## @ uOttawa CS Club

CLUB EXECUTIVE

University of Ottawa | June 2022 — Present

- Building a community of **over 1000** computer science students at the University of Ottawa.
- Collaborating with both other executives to brainstorm, organize and schedule a few dozen events by designing marketing material using Figma and organizing workshops for over **100 students**.

# **PROJECTS**

# Atto-8 Microcomputer

A MINIMALIST 8-BIT MICROCOMPUTER WITH STACK-BASED MICROPROCESSOR

Rust • Assembly

- Designing ecosystem of hardware and software from logic chips upward:  $\Omega$  microarchitecture specification  $\Omega$  microcode builder  $\Omega$  gate-level circuit design  $\Omega$  instruction-level emulator  $\Omega$  optimizing assembler  $\Omega$  assembly standard library  $\Omega$  rudimentary C99 compiler.
- Built various utilities and demos running natively on microcomputer: heap allocator • C string handling functions • native Brainfuck compiler • Flappy Bird clone • Game of Life simulation.

# @ Personal Website

A PORTFOLIO FOR SHARING VARIOUS PROJECTS

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%.

## OBLess Password Manager

A HASH-BASED, DATABASE-LESS PASSWORD MANAGER

Python • Next. js

- Devised **Q** custom cryptographic procedure based on SHA-256 to deterministically generate passwords on demand without requiring encryption or password storage.
- Built **O** 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 DEFITHE CONVENTIONAL 2022

March 2022 | 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 **O** 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 O GitHub and in O Portfolio

## SKILLS

### **Programming Languages**

Rust • C • Python • JavaScript

## **Development Tools**

NixOS • Neovim • Fish • Git • GitHub • Docker

#### Frameworks

React • Next.js • Node.js

#### Other Technologies

HTML • CSS • JSON • YAML • Markdown • LaTeX • C++ • x86 Assembly • Linux • GDB • 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

## CONTACT

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