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: 🔗 microarchitecture specification • 🔗 microcode builder • 🔗 gate-level circuit design • 🔗 instruction-level emulator • 🔗 optimizing assembler • 🔗 assembly standard library • 🔗 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%**.

🔗 DBLess Password Manager

A HASH-BASED, DATABASE-LESS PASSWORD MANAGER   *Python • 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 | 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

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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