Emilien **Breton**

EXPERIENCE

🔗 Hack the Hill
DEVELOPMENT COORDINATOR — DEVELOPMENT TEAM *University of Ottawa • November 2022 — Present*

Zeptile Software
SOFTWARE ENGINEER — WEB3 *Remote from Ottawa • October 2022 — Present*

🔗 uOttawa CS Club
CLUB EXECUTIVE *University of Ottawa • June 2022 — Present*
- Collaborated with two other executives to brainstorm, organize and schedule a dozen small-scale events in Ottawa by giving talks and organizing workshops for over 100 students
- Designed internal Notion workspace, improving short-term planning by providing single central platform to capture meeting minutes and track task progress

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%

⏻ Stack-Based CPU
AN ASSEMBLER AND EMULATOR FOR A CUSTOM STACK-BASED CPU ARCHITECTURE *Rust • Assembly*
- Designed and implemented stack-based emulator in Rust that supports 44 CPU instructions and graphics through 32x32 grayscale display buffer
- Developed basic assembler to resolve labels and convert Assembly source files into custom binary machine code
- 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*
- Devised ⏻ 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 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 from scratch in Rust with no prior experience in Web3, all within tight 36-hour timeframe
- Collaborated with Terraform Labs to officialize our protocol and secure additional funding prior to Terra Luna collapse

More on ⏻ GitHub and in 🔗 Portfolio

EDUCATION

University of Ottawa
BSC WITH HONOURS IN COMPUTER SCIENCE *Dropped out after first year*
- Admission scholarship — 95%+ average *November 2020*

CONTACT

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SKILLS

Programming Languages

Python • JavaScript • Rust • C++

Development Tools

Linux • Neovim • Git • GitHub • Docker

Frameworks

React • Node.js • Next.js • Express.js

Other Technologies

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

OTHER

Languages

- French *Native*
- English *Native*
- Spanish *Intermediate*
- Russian *Elementary*

Interests

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