


Emilien Breton

EXPERIENCE

Hack the Hill

DEVELOPMENT COORDINATOR — DEVELOPMENT TEAM University of Ottawa • November 2022 — Present

- 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 sponsor payment portal powered by Stripe and React.js

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

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
- 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
- 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 without requiring encryption or password storage
- 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 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


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