


# 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 November 2020*

- Admission scholarship — 95%+ average

## 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	<i>Native</i>
• English	<i>Native</i>
• Spanish	<i>Intermediate</i>
• Russian	<i>Elementary</i>

### Interests

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