

# Hy Huynh

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## EDUCATION

### University of Calgary

Sep. 2019 - Apr. 2024

*Bachelor of Science in Software Engineering with Co-op Program*

*Calgary, Alberta*

- Relevant courses: Distributed Systems, Data structures and Algorithm, Computer Networks, Scalable Data Analytics, and Engineering Fundamental courses
- Capstone Project - Sponsored by Royal Bank of Canada.

## EXPERIENCE

### Energy Toolbase

May. 2022 – Sep. 2023

*Software Engineering Intern*

*Hybrid - Calgary, AB*

- Used 2048-bit RSA to encrypt new API integration with Salesforce - Pardot; leveraged Azure Cloud as an intermediate proxy to manage the initial handshakes and facilitate seamless communication with Salesforce.
- Engineered a set of new APIs to process 100,000+ time series and power series data entries per request for the legacy application, improving the up-time from 55% to 100%
- Maintained Stripe APIs to handle subscription payments of 700+ customers of the company, along with SendGrid's to automate 1,000+ internal and external emails.
- **Tech stack:** Typescript, C#, ASP.NET MVC, Azure

### Apheleia

Apr. 2021 – Oct. 2021

*Front-end Developer Intern*

*Remote - Oregon, US*

- Created a POC for cash flow management and customer messaging system of an internal dashboard
- Integrated a UX/UI prototype to a functional website/application
- **Tech stack:** React, Redux, TypeScript, TailwindCSS, Firebase

## PROJECTS

### Weather Event Monitoring System | *NextJs, Python, Leaflet, Cron, MongoDB, Redis*

- Conducted code-review and quality-assurance for the team and experimented new features on front-end, back-end and database architecture.
- Installed grouping technology to interactively display up-to 2,000,000+ points of interest on Leaflet map.
- Integrated caching layer into front-end with Redux and React Query, to optimize the network traffic
- Researched on database indexing, help increase 10x in performance compared to non-indexed queries in MongoDB.

### Keyboard Mapper - Personal Project | *Rust with Tauri*

- A Rust-based desktop application for mapping OS hotkeys to custom shortcuts.
- Employed Rust Rdev library to effectively manage, manipulate, and simulate keyboard events with zero latency.
- Built a fast, robust and secure desktop application with Rust Tauri.

### Real-time Collaborative Markdown - Distributed System Course | *NextJs, Typescript, Docker, AWS*

- Designed the system that can handle 1,000+ requests, server fault tolerance, database corruption and consistency.
- Used conflict-free CRDT algorithm with YJS library to ensure instant synchronization across peer-to-peer.
- Created a reverse proxy to mask and distribute network to server instances that are deployed on EC2
- Integrated PM2 to monitor all processes, in case of corruption, run restart-and-recover protocol

### Moosique - 2<sup>nd</sup> Place - Hack the Change 2021 | *Typescript, Python, React, Firebase*

- Developed a mental health focused web application that plays music based on the user's facial emotions
- Deployed REST API with API Gateway, Lambda Serverless Functions that receives images
- Used Amazon Rekognition's trained model to detect user's emotions plays music via Spotify Web API

## TECHNICAL SKILLS

**Languages:** JavaScript/TypeScript, HTML5/CSS, C#, Rust, C/C++, Java, Python

**Frameworks/Libraries:** React, Tailwind CSS, ASP.NET MVC, Docker, Apache Spark

**Other Technologies:** AWS, Azure, Google Cloud Platform, Linux OS