Abhinav Boyed

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Bachelor of Software Engineering at the University of Waterloo

Technical Competencies

Languages: Python, C++, C, JavaScript, Ruby, Golang

Work Experience

Production Engineer – *Shopify, Kitchener, ON* *September 2020 – Present*

- Developing instrumentation to track world-wide CDN performance using **Terraform**, **Kubernetes** and **Jest**
- Building a rolling cache invalidation scheme to build resilience against toxic CDN assets using **Ruby** and **VCL**

Backend Engineer – *Shopify Plus, Kitchener, ON* *January 2020 – April 2020*

- Created a new backend service that consolidates authentication data to serve 20k requests per minute
- Developed a concurrent multi-row data locking library for **SQL** using **Ruby** and **Redis**
- Built unified dashboard services to improve enterprise customer experience using **Ruby, React**, **Redis** and **Kafka**

Full-Stack Engineer – *Bonfire Interactive, Kitchener, ON* *May 2019 – August 2019*

- Created a new product offering, from inception to go-live with an agile team of 5 developers
- Developed a real-time data sync between **AWS Aurora** data-stores using **SQS**, **SNS** and **Lambda** in **Golang**
- Designed and built an end-to-end payment page with **Stripe** using **React**, **Node.js**, **API Gateway** and **Lambda**

Software Engineer – *UCash, Toronto, ON* *May 2018 – August 2018*

- Developed a microservice-based bitcoin withdrawal system with **Node.js** and **Docker-compose**
- Implemented a **RESTful API** (Node.js and Web3JS) to transact UCash Currency on the Stellar Blockchain
- Decreased transaction confirmation time through request batching by 5x for ~760k registered users

Projects and Awards

Impetus – *C++, Node.js, Golang, Docker-compose, Redis* *February 2019 – Present*

A service interface deployed on AWS meant to sustainably democratize high-frequency trading of cryptocurrencies

- V1: Designed and built a trader with ~600µs response time in **Redis**, **Node.js**
- V2: Rebuilt in **C++** to use a **multithreaded environment** and custom data structures to achieve ~80µs responses
- Built a network and performance benchmarking tool with **Datadog, Node.js performance library, Chrome Tracing**

Auxilium – *Node.js, Raspberry Pi, Stellar Blockchain, AWS Rekognition, Lambda* *September 2019*

An IoT network of ATMs to make micro-loans easier for people in impoverished situations: **Top 10** of 300+ at PennApps XX

- Engineered a prototype of a Raspberry Pi enabled IoT ATM using **Python**, **Fusion360** and a **3D printer**
- Implemented facial recognition authentication using **AWS Rekognition** and **S3** to reduce identity fraud
- Built integration for the **Stellar Blockchain** with a failover queue to permanently store transaction history

Confluence – *React, Express.js, Node.js, Socket.io, WebSocket* *November 2018 – December 2018*

Decentralizing evolutionary AI training: **3rd place winner** at Waterloo Engineering Competition

- Trained genetic AI algorithm over a distributed network of computers, reducing model training time by 83%
- Implemented an **evolutionary AI** in **Node.js** to distribute training tasks to clients
- Designed and developed **data visualization** dashboard in React to show live stats and simulations

Education

Candidate for Bachelor of Software Engineering at University of Waterloo: *September 2018 - April 2023*
Relevant Coursework: Sequential Programs, Data Abstraction, Digital Computers, Programming Principles
Online Courses: Neural Networks and Deep Learning at Coursera