

# Kunalan Kevin Subagaran

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## Education

### Queen's University

September 2019 – April 2023

Bachelors of Computing (Honours) in Software Design

Kingston, ON

- **Relevant Coursework:** Data Structures, Algorithms, OOP, Operating Systems, System Level Programming
- **Awards:** Ratehub.ca Award in Computing, Dean's Honour List × 2

## Experience

### Snap Inc.

May 2022 - Present

Software Engineer Intern

Toronto, ON

- Designed an encryption scheme to store the sensitive data of over **100 million users** on AWS and GCP
- Added functionality to a core user authorization utility used across the organization by multiple services
- Created a microservice that aggregates data across **1.7 million** requests per day for ML model training with gRPC and Golang

### Bonsai

May 2021 - August 2021

Full-Stack Developer Intern

Toronto, ON

- Engineered an external order fulfillment system that has fulfilled over **\$1,600,000** in orders
- Added features to React dashboard such as filters, exporting orders as a CSV, and product verification pipeline
- Reduced API load of Node.js + GraphQL backend by **66%** by optimizing frontend queries
- Implemented a secure password reset flow with reset tokens, IP address and Browser validation, and confirmation emails using Sendgrid's Email API

### Bonsai

January 2021 - April 2021

Site Reliability Engineer Intern

Toronto, ON

- Automated Google Cloud deployments and MongoDB cluster creation using Terraform, saving development time
- Improved monorepo by transitioning to Yarn V2 with local caching, speeding up CI/CD workflows by **18 minutes**
- Revamped TypeScript Node.js image API by splitting upload and download functions into microservices
- Optimized Docker build size by over **90%** by implementing multistage builds and parent images

## Projects

### Resume Parser | React, Next.js, JavaScript, jQuery, HTML/CSS, Vercel, Redis

- Created web app with over **75,000 page views**, that shows parsed resume information
- Made custom analytics solution using Redis with backend hosted as a Vercel edge function

### Course Central | React, Next.js, TypeScript, Chakra-UI, Python, Selenium, MongoDB

- Engineered a Progressive Web and Android app with **4300+ users** and over **40,000 page views**, that allows students to see a course's historical GPA, enrollment data, and leave reviews
- Utilized Python web scrapers to collect, aggregate, and then upload the data of over 850 courses to MongoDB

### Forex Trading Algorithm | Python, Jupyter Notebooks, NumPy, pandas, scikit-learn

- Developed a Python trading algorithm that made a **profit of over \$90,000** from an investment of \$10,000
- Formulated ARIMA model to place orders and sells based on correlation between forex and commodities

### Pronto | React, JavaScript, Firebase, Express, Node.js, Stripe API, Bootstrap, CSS

- Built a rental web app that placed **1st** in a pitch competition, and acquired **50 users** with over **\$1100** in rentals
- Added a CRUD system for posts, Firebase authentication, live messaging, and transactions with Stripe

### Happy Recommender | Python, Tensorflow, Surprise, Flask, React, JavaScript

- Created a Python package for deep, mixed, and matrix-based recommendation systems
- Presented an app using the package at Canada's largest undergraduate AI conference to over 100 professionals

## Technical Skills

**Languages:** TypeScript, JavaScript, Python, HTML/CSS, Java, Bash, C, Go, SQL

**Frameworks:** Express.js, React, Next.js, Svelte, jQuery, Flask, Bootstrap, Gin

**Technologies:** Node.js, REST APIs, GraphQL, MySQL, MongoDB, Redis, Selenium, Git

**DevOps:** Docker, Kubernetes, GitHub Actions, Semaphore CI, Google Cloud, Amazon Web Services, CI/CD, Terraform