

# Kunalan Kevin Subagaran

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## Education

### Queen's University

Ontario, Canada

BACHELORS IN COMPUTER SCIENCE

Sep. 2019 - Apr. 2023

- Courses: Data Structures (Python), Computer Architecture (C, x86 Assembly), System-Level Programming (C, Bash), Logic for Computer Science (Python, JavaScript), Object-Oriented Programming (Java, Python), Linear Data Analysis (MATLAB)

## Work Experience

### Shop Bonsai

Toronto

FULL-STACK ENGINEER INTERN

May. 2021 - Present

- Added features to React dashboard such as filters, exporting orders as a csv, improving product pipeline, and reducing API load by **66%**.
- Created external order fulfillment system that has fulfilled over **\$30,000** in orders using a Node.js GraphQL API.
- Implemented password reset flow with reset tokens, IP address and Browser validation, and confirmation emails using Sendgrid's Email API

### Shop Bonsai

Toronto

SITE RELIABILITY ENGINEER INTERN

Jan. 2021 - Apr. 2021

- Implemented infrastructure as code using Terraform, automating Google Cloud deployments and MongoDB cluster creation.
- Improved monorepo by transitioning to Yarn V2 with local caching speeding up deployment and CI/CD workflows by **18 minutes**.
- Revamped Node.js image API written in TypeScript by decoupling upload/download and splitting into microservices.
- Optimized Docker build size by over **90%** by implementing multistage builds and parent images.

## Projects

### Course Central - 2021

[View Project](#)

- Progressive Web and Android app built with Next.js and Java for students to see a course's historical GPA, enrollment data, and leave reviews.
- Used Selenium Python web scrapers and Deno to collect, aggregate, and then upload the data of over **850 courses** to MongoDB.
- Used by over **2600 students**, with **21,000+ page views** (according to Firebase Analytics and Authentication).

### Forex Trading Algorithm - 2020

[View Project](#)

- Created Python forex trading algorithm that made a **profit of \$90,000** from an initial investment of \$10,000 using the Quant Connect Platform.
- Created ARIMA model from statsmodels library to place orders and sells based on correlation between forex markets and commodities.
- Preprocessed, graphed, and analyzed **4 years of market data** using Jupyter notebooks, pandas, and Mathplotlib.

### Infinity & Beyond - 2019

[View Project](#)

- Android arcade game made with Unity and C#. With assets made with Adobe Photoshop and Adobe Illustrator.
- Currently sits at a **4.9 star** rating on the Google Play Store.

## Extracurricular Activity

### Queen's Tech & Media Association

Kingston

SOFTWARE DEVELOPER

Apr. 2020 - Present

- Developed Pronto - a rental marketplace web app for students - with React.js, JavaScript, and Node.js.
- Created a CRUD system for posts, authentication with FireBase, live messaging, and Stripe API integration for secure transactions between users.
- Web app won **1st place** in pitch competition, and acquired over **50 users**, with over **\$1100** in rentals placed.

### QMIND

Kingston

AI DESIGN TEAM MEMBER

Sep. 2019 - Apr. 2021

- Created a Python package with TensorFlow and Surprise for deep, mixed, and matrix-based recommendation systems.
- Presented a Flask app using the package at CUCAL - Canada's largest undergraduate AI conference - to **100+ industry professionals**.

### Pickering High School

Ajax

TEACHER'S ASSISTANT

Sep. 2018 - May. 2019

- Taught Java, and concepts such as Data Structures and Object-Oriented Programming to over **25 students** during my Grade 12 year.

## Skills

Languages	TypeScript, JavaScript, Python, HTML, CSS, Java, Kotlin, Bash, C, C#, MATLAB, Go, x86 Assembly
Technologies	Node.js, Deno, REST APIs, GraphQL, NoSQL, MongoDB, Redis, Selenium, Git, Android Studio, Unity
Frameworks	Express.js, React.js, Next.js, Svelte, jQuery, Flask, TensorFlow, Bootstrap, Gin
DevOps	Docker, Kubernetes, GitHub Actions, Semaphore CI, Google Cloud Platform, CI/CD, Terraform