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 - Aug. 2021*

- 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.
- Over **2800 students**, with **25,000+ page views** recorded through **Firebase Analytics**.

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.
- 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 CUCAI – 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, SQL
Technologies	Node.js, Deno, REST APIs, GraphQL, MySQL, 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