Kunalan Kevin **Subagaran**

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Education

Queen's University   *Ontario, Canada*
BACHELORS IN COMPUTER SCIENCE   *Sep. 2019 - Apr. 2023*

- Awards: Ratehub Award in Computing, Queen's University Excellence
- Courses: Data Structures, Computer Architecture, System-Level Programming, Logic for Computing Science, Discrete Mathematics

Work Experience

Shop Bonsai   *Toronto*
FULL-STACK ENGINEER INTERN   *May. 2021 - Present*

- Added features to React.js internal dashboard including product filters, and a user management system for administrators.
- Created external order fulfillment system for Customer Experience Team using TypeScript, Node.js, Apollo, and GraphQL.

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 (Course Selection App) - 2021   *View Project*

- Progressive Web App made with Next.js for Queen's students to see a course's historical GPA and enrollment data, and read and write reviews.
- Created Selenium Python scrapers to collect data, and aggregated data with Deno. Course data was uploaded to MongoDB with a Bash script.
- Used Firebase for Authentication and Analytics.
- Used by over 700 students.

Forex Trading Algorithm - 2020   *View Project*

- Created Python (pandas, mathplotlib, statsmodels) forex trading algorithm which was evaluated and trained on the Quant Connect Platform.
- Used ARIMA (statistical model) to make predictions based on correlation between forex markets and commodities.
- The trading algorithm was able to make a profit of $90,000, or 1000% from an initial investment of $10,000.

Infinity & Beyond (Android Game) - 2019   *View Project*

- Android arcade game made with Unity and C#. With assets made with Adobe Photoshop and Adobe Illustrator.
- Currently sits at a 4.9/5 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 managing user's posts, user log-in and authentication with FireBase, refund capability, a custom live messaging component, and a Stripe API to handle secure transactions between users of the application.

QMIND   *Kingston*
AI DESIGN TEAM MEMBER   *Sep. 2019 - Apr. 2021*

- Created a Python package with TensorFlow for recommender systems that uses a combination of deep, mixed, and matrix-based 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	JavaScript, TypeScript, HTML, CSS, Python, Java, Kotlin, Bash, C, C#, MATLAB
Technologies	Node.js, Deno, REST APIs, GraphQL, NoSQL, Selenium, Git
Frameworks	Express.js, React.js, Next.js, Svelte, jQuery, Flask, TensorFlow, Gin
DevOps	Docker, Kubernetes, Terraform, GitHub Actions, Semaphore CI, Google Cloud Platform, CI/CD