Kunalan Kevin Subagaran

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Education

Queen's University *Ontario, Canada*
BACHELORS IN COMPUTER SCIENCE *Sep. 2019 - Apr. 2023*
- Courses: Data Structures, Computer Architecture, System-Level Programming, Object-Oriented Programming

Work Experience

Shop Bonsai *Toronto*
FULL-STACK DEVELOPER INTERN *May. 2021 - Aug. 2021*
- Designed an external order fulfillment system that has fulfilled over **$30,000** in orders
- Added features to React dashboard such as filters, exporting orders as a csv, and reworking product verification pipeline
- Reduced API load of Node.js + GraphQL backend 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

Shop Bonsai *Toronto*
SITE RELIABILITY ENGINEER INTERN *Jan. 2021 - Apr. 2021*
- Automated Google Cloud deployments and MongoDB cluster creation using Terraform, resulting in saved development time
- Improved monorepo by transitioning to Yarn V2 with local caching, speeding up deployment and CI/CD workflows by **18 minutes**
- Revamped TypeScript Node.js image API by decoupling upload and download functions and splitting into microservices
- Optimized Docker build size by over **90%** by implementing multistage builds and parent images

Projects

Course Central - 2021 *View Project*
- Engineered a Progressive Web and Android app with Next.js and Java for over **3000 students** with **28,000+ page views** to see a course's historical GPA, enrollment data, and leave reviews
- Utilized Selenium Python web scrapers and Deno to collect, aggregate, and then upload the data of over **850 courses** to MongoDB

Forex Trading Algorithm - 2020 *View Project*
- Developed and deployed a Python forex trading algorithm that made a **profit of over $90,000** from an investment of $10,000
- Formulated ARIMA model from statsmodels library to place orders and sells based on correlation between forex and commodities
- Preprocessed, graphed, and analyzed 4 years of market data using Jupyter notebooks, pandas, and Mathplotlib

Infinity & Beyond - 2019 *View Project*
- Created Android arcade game made with Unity and C#, which currently has a **4.9 star** rating on the Google Play Store

Extracurricular Activity

Queen's Tech & Media Association *Kingston*
SOFTWARE DEVELOPER *Apr. 2020 - Present*
- Built Pronto, a rental marketplace web app for students with React.js, JavaScript, and Node.js
- Constructed 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*
- Designed a Python package with TensorFlow and Surprise for deep, mixed, and matrix-based recommendation systems
- Presented a Flask app using package at CUCAI (Canada's largest undergraduate AI conference) to 100+ industry professionals

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, CI/CD, Terraform