Nathan CHEUNG

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💼 EXPERIENCE

Amazon – Software Development Engineer Intern   MAY 2022 – AUG 2022
> Developed on Cradle; an internal big data processing tool running over 1.20MM jobs/week
> Architected and designed data previewing function for Cradle, reducing internal AWS EC2 & S3 resources
> Maintained Cradle's deployment architecture by fixing configuration mismatches and CI/CD pipeline issues
> Implemented Angular.js to React migration for Cradle, improving front-end load times by 1134%

`Java` `React` `TypeScript` `AWS`

IBM – Software Engineer Intern   MAY 2020 – APR 2022
> Developed a z/OS mainframe debugger used by 300+ engineers in the GTS organization
> Supervised a team of 5 interns/new-grads through pair programming, 1:1s, code reviews, and tech syncs
> Architected a support ticket queue monitoring bot to re-route misplaced tickets, increasing NPS scores by 30%
> Deployed 3 applications through cross-functional teams using Docker, Kubernetes, and CI/CD pipelines

`Docker` `Kubernetes` `IBM Cloud` `NodeJS` `Python`

LunaID – Mobile Application Developer   JAN 2021 – AUG 2021
> Developed Android and iOS apps that classifies insects and recommends pesticides for agricultural farmers
> Constructed a data pipeline to annotate large image datasets for object classification training
> Designed backend architecture that re-piped user submitted images for further CV training, increasing model accuracy by 22%
> Compiled and deployed mobile app to the Apple App Store and Google Play Store for enterprise use

`React Native` `Computer Vision` `Python` `NodeJS`

🖥 PROJECTS

Road Lane Detection Algorithm   ⊙ Github Repo
> Developed an algorithm to detect lane lines using canny edge detection and hough transforms
> Benchmarked the algorithm against 33 hours (94GB) of driving data with a 93% lane detection rate

`OpenCV` `Python` `Computer Vision`

Yeetco.de   🔗 Website
> Developed a chrome extension to allow competitive leetcoding against friends
> Synchronized concurrent user activity using websockets, serving 5800+ unique monthly visitors from 32+ countries

`WebSockets` `Docker` `TypeScript`

Password Manager   ⊙ Github Repo
> Created a Python password manager CLI using bcrypt hashing and AES-128 encryption
> Implemented password salting and peppering for security against brute force and rainbow table attacks

`Python` `Encryption` `Hashing`

Automated Classifieds Bot   ⊙ Github Repo
> Created a Python bot to identify high-margin classified listings and notify users via email
> Automated and deployed bot using an AWS EC2 instance, handling email notifications with smtp protocol

`Python` `AWS` `Web scraping`

☰ SUMMARY

Languages	Python, Java, TypeScript/JavaScript, C, Objective-C, SQL/NoSQL, Assembly, VHDL
Tools & Technologies	Docker, Kubernetes, CI/CD, NodeJS, React/React Native, AWS, IBM Cloud, TensorFlow, Git

🎓 EDUCATION

BEng. Software Engineering – Ryerson University   GPA : 4.00