# 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 Angular.js

#### 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

# **S**UMMARY

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

# **EDUCATION**