Alex Vu

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Technical Skills

Languages	**Python**, **C#, JavaScript**, GraphQL, GoLang
Frameworks	FastAPI, Django, Go Gin, ReactJS, NodeJS, SpringBoot , Agile, .NET
Developer Tools	Docker Compose, Kubernetes, RedHat OCP, Airflow, GitHub Action, ArgoCD, Jenkins Clusters, Elasticsearch, MongoDB, PostgreSQL, ARM Templates, Terraform, Celery, Redis, Kafka, ServiceNow API

Experience

Software Developer Intern
Royal Bank of Canada

Jan 2024 – April 2024

- Developed **REST APIs** to interact with threat dataset (**Archer**) and managed **3000+** connections violation using **FastAPI** and **Pydantic** library.
- Built **Airflow DAGs** to migrate legacy email codebase (**Jinja2** templates, **EWS**, **Pydantics**) to Airflow server for email automation.
- Optimized an **ETL pipeline** of cyber threat data using **Celery**, **RabbitMQ**, and **Redis** within a **microservice** architecture with **docker compose**, integrating **Elasticsearch Aggregation** for real-time threat anlaysis.
- Engineered a parsing tool (web-based) to validate firewall rule requests using **ReactJS**, **Redux**, and **ExpressJS**; optimized builds with **Webpack** and utilized **MongoDB** Atlas for analytics storage.
- Increased python apps runtime with concurrency (**asyncio**, **multiprocessing**), assessed security vulnerabilities (**Pylint**, **Bandit**), and deployed to **RedHat OCP** containers.

Cyber Security Engineering Intern
BlackBerry

May 2023 – Aug 2023

- Improved threat detection accuracy by **25%** using **pytest**, **unittest** based from **NIST guidelines** to assess the security posture of internal tools.
- Designed a terminal app (**PyCli**, Bash) to automate vulnerability assessment of python codebases using **pyTenable API** and covered **200+** attack techniques curated from **MITRE ATT&CK.**
- Containerized and deployed internal security tools on serverless **Kubernetes** clusters, leveraged **PostgreSQL** for threat data storage.

Cyber Security Architecture Intern
BlackBerry

Jan 2022 – April 2022

- Configured **Proofpoint DLP** rules for 14 use cases aligned with BlackBerry's data governance policies, reducing false positives to 1.2%.
- Conducted weekly Security Risk Assessments (**SOC2**, **ISO27001**, **ITSG-33**) for **20+ vendors** and 3rd party software, in collaboration with the SOC team.
- Developed an IAM enhancement using **SAML** for SSO, **OAuth 2.0** for secure access, and **OpenID** Connect for streamlined authentication, leading to a **40% reduction** in login-related support tickets.
- Deployed the IAM project on serverless **Kubernetes** clusters with **HashiCorp Vault** for secure secret management, reducing authentication latency by 35% and improving system uptime by 25%.

Coding Instructor
Code Ninjas

Aug 2021 – Sept 2022

- Improved **150+ students** on development skill sets of **JavaScript**, **Unity**, and **C#** via project-based learning
- Designed an 8-month curriculum for **3D game** development in Roblox Studio with **Lua**, and 3D Game Design fundamentals to advanced.

Projects

BubbleMathics | *ReactJS, Socket.io, MongoDB, RestAPI* 🔗
PropelAuth Award – HawkHacks 2024

- Won HawkHacks, Laurier's largest hackathon, out of **900+** participants.
- Developed a Math learning web platform to help kids with ADHD learn together in real-time, featuring Socket.io, MongoDB Atlas, PropelAuth API, and Framer Motion.

HeadSpace| *C#, Unity Coroutines, 3D AI, Voice-To-Text* 🔗
Hack The North 2024

- Designed a 3D Game in **Unity** that transforms journals into a dynamic 3D world reflecting users' thoughts and emotions.
- Engineered **multithreaded API** calls with **Unity Coroutines**, allowing smooth processes of voice-to-text (Picovoice **SDK .NET**) and 3D objects rendering with Sloyd AI.
- Developed custom **C# scripts** for game object instantiation with dynamic parenting, transformation handling, and runtime asset management using **Addressables** for efficient memory usage.

FroggyFlow | *Python, Sklearn, OpenCV, NextJS, FastAPI* 🔗
Hack The 6ix 2024

- Implemented a **RandomForestClassifier** to train a model that alerts student posture quality from 3D sensor data (arduino gyroscope), utilizing **StandardScaler** for data preprocessing and achieved **95% accuracy.**
- Engineered scalable backend components serving ML models, featuring **FastAPI** and **StreamingResponse** for real-time video feeds.

Education

Fanshawe College
London, ON

*Advanced Diploma in Cyber Security, co-op endorsed, **3.96/4.0 GPA***   *Sep. 2020 – April 2024*