

# Alexander Yoon

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## TECHNICAL SKILLS

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**Programming Languages:** Python, Java, Kotlin, SQL, C, C++, JavaScript

**Technologies:** Android, HTML/CSS, Tailwind, React, React Native, Next.js, MongoDB, Microservices, REST

**Machine Learning & Data Science:** PyTorch, TensorFlow, Pandas, NumPy, SciPy, Matplotlib, Dash, Databricks

**Developer Tools:** Git, Github, Docker, AWS, Azure, CI/CD, Agile, Scrum, JIRA, Confluence

## EXPERIENCE

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### Amazon

May 2025 – Aug. 2025

*Software Development Engineer Intern - Android*

*Vancouver, BC*

- Developed the **Overnight Upload** feature for the **Amazon Photos Android app**, enabling background uploads during low-usage hours; helped increase users reaching the **100% complete backup state** by an estimated **15%**.
- Engineered both **frontend UI** and **backend service logic** in **Kotlin** with **AWS integration**, optimizing large-scale photo upload reliability.
- Designed and monitored **metrics dashboards** and **alarms** to track feature success and health; improved **mean time to detect (MTTD)** failures by **30%**.
- Collaborated within an **Agile Scrum team** through sprint planning, daily standups, and code reviews, contributing **production-ready code** to a massive, complex Android codebase.

### CIBC

Sep. 2024 – Apr. 2025

*Software Engineer Intern – Salesforce ECRM*

*Toronto, ON*

- Designed and optimized **data pipelines** in **Azure Data Factory** and **Databricks** to prepare large-scale datasets for **machine learning workflows**, improving automation, scalability, and reliability of enterprise data processes.
- Developed and enhanced **Python applications** and **RESTful APIs** to support model-driven features, automate reporting, and deliver **data-driven insights** to stakeholders.
- Leveraged **NumPy**, **Pandas**, and **Databricks** for **feature engineering**, preprocessing, and exploratory analysis, enabling more effective use of structured and unstructured data in ML initiatives.
- Collaborated with **cross-functional teams** to align ML solutions with business needs, contributing to experimentation, validation, and integration into **Salesforce ECRM**.

## EDUCATION

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### Bachelor of Software Engineering

Sep. 2021 – Present

*McMaster University*

*Hamilton, ON*

## PROJECTS

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**CraveAI** | *Python, LangChain, OpenAI API, ChromaDB, FastAPI, React, Google Places API, Mapbox, Docker*

- Developed a conversational **Retrieval-Augmented Generation (RAG)** chatbot integrating **LangChain**, **OpenAI GPT-4**, and **Google Places API** to provide mood- and craving-based restaurant recommendations using real-time user location.
- Implemented **natural-language intent parsing**, **vector-based cuisine retrieval**, and an interactive **React + FastAPI interface**, achieving sub-second query response and high user engagement.

**MAL TV Score Predictor** | *Python, FastAPI, scikit-learn, XGBoost/LightGBM, Pandas, React, Vite, Tailwind*

- Built an **end-to-end Python pipeline** to ingest and clean **MAL datasets**, engineer features, train a **regression model**, and serve predictions through a **FastAPI API** on **Uvicorn**.
- Designed a **Vite + React + Tailwind interface** displaying an anime card grid with cover art, MAL IDs, and **color-coded score badges**, plus CSV export.
- Engineered features from **MAL metadata** and **synopsis text** using **TF-IDF** with dimensionality control, and implemented robust preprocessing with **leakage-safe splits**.

**VANKLCommApp: Secure Chat Android Application** | *Java, Android Studio, Firebase, AES Encryption*

- Developed a **secure chat app** for company-wide communication, ensuring **confidentiality and integrity** of messages.
- Implemented a **Key Distribution Centre (KDC)** server, mediated authentication protocol, and **AES encryption** to establish secure channels.
- Built features including **Contacts management** and **Broadcast messaging** for company-wide communication.
- Utilized **MVC architecture** for modular development and **Firebase** for database management.