Khoi Nguyen

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Work Experience

Intact Insurance, Data Lab   Montreal, Canada

DATA SCIENTIST INTERN   *May 2023 – Aug 2023*

- Performed comprehensive exploratory data analysis on client flood claims, geospatial maps, and satellite imagery using **Python** and **R**, uncovering critical insights for flood risk assessment.
- Led the development of a **Flask API** endpoint, enabling coordinate-based flood risk data retrieval, emphasizing strong testing and documentation practices.
- Reduced data inconsistencies by 60% through extensive data cleaning and preparation using **SQL,** ensuring data reliability and validity for model evaluation.
- Engaged in regular code reviews to maintain high standards of code quality, and contributed to Agile sprints.

McGill University, Distributed Digital Music Archives & Libraries Lab   Montreal, Canada

SOFTWARE DEVELOPER   *May 2022 – Apr 2023*

- Developed a web application for image labeling and optical recognition model training using **Django**, **Flask** and **Docker**.
- Implemented image processing functionalities with **Python** and **TensorFlow** to accelerate training data preparation efficiency, saving annotators 80+ hours per quarter.
- Designed a data loading scheduler for user-labeled datasets, increasing model training speed by 200%.
- Collaborated with researchers to execute code changes, integration testing, and code deployment on production.

Accreon   Fredericton, Canada

SOFTWARE DEVELOPER CO-OP   *Sep 2018 – Jan 2019*

- Refined an **ETL** processes for improved data handling, introducing new features for enhanced flexibility and efficiency in data processing using **Java** (Spring, Hibernate, Maven).
- Streamlined client data extraction into bilingual formats and implemented compression techniques, improving data storage by 30% and increasing browser accessibility for developer use.

Projects

Movie Recommendation System

- Engineered a movie recommendation system incorporating a **Kafka** data pipeline, a **Redis** database, and advanced model training with XGBoost in **Python** for enhanced accuracy (0.15 RMSE).
- Developed a **Flask API** with WSGI server for real-time recommendations, supporting efficient backend operations.
- Integrated robust **CI/CD** practices using GitHub Actions, ensured load-balancing and system scalability through **Nginx** and **Docker**, and implemented comprehensive monitoring using Prometheus and Grafana.

Korean to Vietnamese Phonetic Translator

- Built a phonetic translation tool, using **Java** to map Korean characters to the corresponding Vietnamese phonemes.
- Implemented the frontend using **Vaadin**. Deployed the webapp with **AWS Elastic Beanstalk** for scalable web hosting.

Skills

Programming	Python · Java · C · C++ · C# · SQL · R · JavaScript · HTML · CSS · Bash · Unix · Linux · OCaml
Tools & Skills	Django · Flask · Pytest · Git · Docker · AWS · PostgreSQL · Redis · Jenkins · Kafka · Nginx · Grafana Spring · Hibernate · Maven · OOP · Debugging · Unit Testing · JUnit · CI/CD · API · REST · Agile

Education

McGill University   Montreal, Canada

B.Sc. COMPUTER SCIENCE, GPA: 3.53/4.0   *Sep 2019 – May 2023*

- Awarded the J.W. McConnell Major Entrance Scholarship for outstanding academic achievement.
- Courses: Software Design, Operating Systems, Data Structures and Algorithms, Intelligent Software Systems.
- Extracurriculars: McHacks Hackathon (2020), McWiCS Hackathon (2022), McGill Orientation Leader (2020 – 2022).