Jacob Kim

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Education

University of Waterloo   Sept. 2017 - Apr. 2022 (Expected)
Honours Bachelor of Computer Science (Co-op)   *President's Scholarship of Distinction*
- Cumulative GPA: 3.95/4.00; Dean's Honours List

Experience

Amazon   Sept. 2021 – Dec. 2021
Software Development Engineer   *Vancouver, BC*
- Developing core functionalities of the AWS Step Functions service to improve AWS workflows

NVIDIA   Jan. 2021 – Apr. 2021
Software Engineer   *Santa Clara, CA*
- Designed and developed an internal **real time search** and **analytics** data platform with **Apache Kafka**, used to ingest, store, analyze data for **100+** NVIDIA teams
- Built an internal **security token service** that returns a JWT based authentication token using RSA
- Rewrote a Java service in Python to avoid JVM startup time, led to **23×** speed inc., **5×** memory dec.
- Developed a service to test the validity of a TLS Certificate in a **Docker** container on an **NGINX** image

Uptake   June 2020 – Aug. 2020
Backend Developer   *Toronto, ON*
- Built **REST APIs** to manage the ticketing system for maintenance requests for **1M+** industrial machines
- Created an **API Gateway** for the ticketing system service that handles authentication, rate limiting, etc
- Refactored **10K+** lines of code in SQL Stored Procedures to TypeScript to improve structure and testing

Square Enix Montreal   Sept. 2019 – Dec. 2019
Machine Learning Developer   *Montreal, QC*
- Developed a classification algorithm using **random forest** to predict player lifetime value (**85%** acc. rate)
- Architected a clustering algorithm using **k-medoids** to analyze the behaviour of **1M+** players
- Built an application that retrieves and analyzes **50K+** weekly user reviews/feedback using **NLP**

Environment and Climate Change Canada   May 2018 – Dec. 2018
Full Stack Developer   *North York, ON*
- Led the full stack development of a cloud-based **ERP** web application, used by **50+** mining companies
- Designed the relational data model in SQL and developed **REST APIs** to handle CRUD operations
- Created multiple secure and responsive web forms to collect **350+** environmental reports/year

Technical Skills

Languages	Python, Java, C++, C, C#, JavaScript, TypeScript, SQL, Bash
Frameworks/Libraries	Node.js, Express.js, Kafka, Spark, Flask, PyTorch, TensorFlow, .NET
Technologies	Docker, Kubernetes, Elasticsearch, AWS, GCP, GraphQL, MongoDB, Git

Projects

Waitless (McGill Code Jam 2019 - 3rd Place AI) | ⌾ repo
- A virtual waiting room for walk-in clinics with a queue system for patients to sign up and get notified
- Built a **lasso regression** ML model using **Sklearn** to predict waiting times and deployed it via **Flask**

TweetTrends | ⌾ repo
- A **data platform** that extracts and analyses trending topics on Twitter in **real time** for various locations
- Uses Twitter API for data retrieval, **Apache Spark** for data processing/streaming, **NLP** for text analysis