

Ted Zhang

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Work Experience

Machine Learning Developer Intern, Kinaxis Inc.

May 2023 – Aug 2023

Toronto, Ontario

- Researched and tested various **change point detection** techniques and **unit root** tests to identify anomalies within supply chain time series data using **Ruptures**, **Kalman Filters**, and an **Augmented Dickey-Fuller** test.
- Analyzed and aggregated data from a large-scale database using **PySpark** and **Azure Databricks**, decreasing processing time by **53%** compared to previous systems.
- Refactored data utilities using **PySpark**, improving readability, reducing lines by **40%**, and decreasing runtime by **45%**.

Software Engineering Intern – Machine Learning, BlackBerry Limited

Sept 2022 – Dec 2022

Waterloo, Ontario

- Developed an unsupervised **NLP** model with an **87 f1-score** and **92% validation accuracy** for log anomaly detection using **hashing vectorizers**, **scalers**, **LSTM** autoencoders, Google's **BERT** transformer, and **isolation forest**.
- Tested, productionized, and integrated the new model into the existing codebase and pushed **2000+ lines** into **production**.
- Improved the machine learning data pipeline by using **multiprocessing** and reducing redundant **API** calls by **55%**.
- Implemented a **CI/CD** pipeline using **Git**, **GitLab CI/CD**, **GitLab Runner**, **Docker**, and **bash scripts**.

Machine Learning Developer Intern, Advanced Micro Devices Inc. (AMD)

Jan 2022 – Apr 2022

Markham, Ontario

- Spearheaded development and training of a **computer vision** model on **700,000 images** with **94% validation accuracy** using **TensorFlow**, **Keras**. transfer learning using **InceptionV3**, a data loader using **pandas**, and image preprocessing using **OpenCV**.
- Containerized an inference optimization library along with various other pretrained models using **Docker** and **bash scripts**.

Relevant Projects

ML²: Machine Learning Money Lines - ml-squared.ca/

- Aggregated over **500000** lines of NBA player data using **pandas** and developed a tree-based **regression** model using **XGBoost**, boasting a mean absolute error of **4.07** and with **58%** of predictions within 3 points of actual performance.
- Developed a front end using **React.js** and **CSS** alongside an **API** that uses **Django**, hosted on an **AWS EC2** instance using **NGINX** and **Gunicorn**.

Personal Website - www.tedzhang.ca/

- Built a multi-page personal portfolio website complete with interactive elements using **React.js**, **SASS**, and **HTML**.

Education

BCS, Computer Science, University of Waterloo

Apr 2026

Cumulative GPA: 93.88/100

Waterloo, Ontario

- Spring 2022 **First in Class Engineering Scholarship**, Fall 2021, Spring 2022, Winter 2023 **Dean's Honours List**
- Relevant Courses: Algorithms and Data Structures, OOP, Data Structures and Management, Sequential Programs, Computer Organization and Design, Digital Logic, Linear Algebra, Calculus 1 & 2, Probability, Statistics, Combinatorics

Skills

- Languages: Python, C++, JavaScript, HTML, CSS/SASS, bash, Java, SQL
- Frameworks & Cloud: TensorFlow, PySpark, Scikit-learn, Django, AWS EC2, Azure Databricks, OpenCV, XGBoost, React.js
- Other: Data Science, NLPs, Time Series Analysis, Computer Vision, CI/CD, Git, SOLIDWORKS, AutoCAD, NGINX, Gunicorn