Ryan Zhao

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Summary of Qualifications:

- Strong analytical and problem-solving skills demonstrated through developing a CNN-based image classification project that achieves high accuracy on standard datasets
- Out-of-the-box thinking developed through mathematics and physics competitions, consistently placing in top percentiles
- 4+ months of experience transforming raw data into actionable insights, utilizing Python, SQL, and Power BI to support strategic decision-making in a university department setting
- Proficient in Python, Pandas, NumPy, PyTorch, Django and Regex, leveraging these skills to build a deep learning web application for image similarity identification
- Strong experience with Git version control and Shell scripting for collaborative development and automation workflows
- Experience with SQL databases (SQLite, MySQL, SQL Server) for efficient information retrieval and data modeling across ETL processes
- Well-versed in web technologies including Flask, HTML, CSS, and JSON, demonstrated through building responsive web applications
- Excellent presentation and communication skills developed through explaining complex data concepts to non-technical stakeholders

Technical Projects:

Image Similarity Checker (Independent Project)
April 2025

- Engineered a responsive web application using Flask and PyTorch that classifies images into 10 categories with over 78% accuracy over an efficient selection of epochs.
- Implemented a convolutional neural network (CNN) architecture with batch normalization and dropout layers to optimize model performance.
- Streamlined the data preparation process by creating scripts to efficiently extract and label CIFAR-10 dataset images.

Ryan's Rice Hub - Personal Blog Platform (Independent Project)
March 2025

- Designed and implemented a responsive Django-based blog platform featuring a dual content system for both quick updates and long-form articles with reading time estimates.

- Developed a secure admin panel with real-time posting capabilities and session management, ensuring proper authentication and content control.
- Configured the application for deployment on Render cloud platform, including environment setup, dependency management, and proper project architecture following software development best practices.

Education & Training:

Bachelor of Science in Mathematics (Co-op), 2nd year
University of Toronto | September 2023 - present

Introduction to Computer Programming I (CSCA08)
University of Toronto | January 2024 - May 2024

- Exhibited creative thinking abilities by implementing an AI-like project that generates random stories based on limited datasets, completed under time constraints

Milliken Mills High School | January 2022 - June 2023

- STEM-focused Grade 11 and 12 courses
- Achieved excellent results in mathematics and physics competitions:
    - 2022 OAPT Grade 11 Physics Contest: 96th percentile
    - 2023 COMC: top 4%
    - 2023 Euclid: top 25%
    - 2023 ANC12: top 6%

Introduction to Computing Studies (ICS2O)

- Excelled in VB-based coursework, frequently collaborating with instructors to design interactive interfaces and implement efficient local file management solutions with VBA

Work Experience:

Data Analyst & Business Intelligence
University of Toronto Scarborough | January 2025 - April 2025

- Developed a fully automated data pipeline in collaboration with cross-functional teams, increasing dashboard accessibility for marketing and customer service departments by individually designing and streamlining 50% of ongoing dashboards.
- Applied Python, SQL, and Power BI to clean, transform, and visualize student data, enabling the identification of trends that informed targeted outreach strategies.
- Enhanced technical proficiency with GitHub Actions and YAML-based workflow automation, successfully implementing Azure-based solutions for scalable data processing.
- Improved team data literacy by regularly explaining complex data processes to non-technical colleagues using clear, accessible language and visual aids.