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, 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 75% accuracy
- Implemented a convolutional neural network (CNN) architecture with batch normalization and dropout layers to optimize model performance
- Designed an intuitive user interface that allows users to upload images and receive classification results alongside similar images from the training dataset
- Applied proper software development practices including version control with Git and comprehensive documentation
- Streamlined the data preparation process by creating scripts to efficiently extract and label CIFAR-10 dataset images

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

- Demonstrated strong analytical and problem-solving skills by developing a Python-based project to simulate and optimize minimum distance searches across multiple factors
- 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 by 40% for marketing and customer service departments
- Applied Python, SQL, and Power BI to clean, transform, and visualize student data, enabling the identification of trends that informed targeted outreach strategies
- Navigated complex organizational systems by reviewing API documentation and consulting with senior analysts to ensure data synchronization and prevent server conflicts
- 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
- Established an efficient, autonomous workflow by overcoming onboarding challenges through proactive collaboration with mentors and supervisors