

ALAN ZHOU

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EDUCATION

McMaster University

Hamilton, ON

Bachelor of Science in Computer Science, Minor in Statistics

Sep. 2022 – Jun 2027

- **Relevant Courses:** Data Structures & Algorithms, Databases, Machine Learning Applications, Natural Language Processing, Operating Systems, Applied Regression, Data Science, Statistics, French Language
- **Extra Curricular:** Asian F.O.C.U.S, Basketball & Pickleball Intramurals

EXPERIENCE

Software Developer Intern

Jan. 2026 – Present

RBC Borealis

Toronto, ON

- Developed a Python-based count validation automation using pytest and Teradata SQL, validating conditional source-to-target record counts from Excel-driven test specifications to ensure data integrity across enterprise data pipelines.
- Developed Python-based MCP tools to retrieve, filter, and aggregate data from AWS S3, leveraging Trino for distributed SQL querying and PostgreSQL for validation to ensure reliable downstream ML workflows.
- Designed and implemented comprehensive UI and API test suites for internal applications (RBC Assist Pro, Lumina), and built production-grade GitHub Actions CI/CD workflows to automate test execution, validation reporting, and deployment gates across the software lifecycle.

Software Engineer Intern

Jun. 2025 – Aug 2025

DataVisor

Remote - Based in Mountain View, CA

- Designed and executed 10+ comprehensive test cases based on product requirements to identify UI and API issues and contribute to enhancing overall client experience.
- Contributed to the maintenance and expansion of Java-based test automation scripts (Cucumber, Gherkin) to reduce manual Quality Assurance workload by 25% and improve test reliability.
- Collaborated with product managers and developers to triage bugs efficiently, supporting agile sprint cycles and timely feature delivery.

PROJECTS

NBA Player Statistics ETL Pipeline | Python, Pandas, MySQL, REST API, JSON

Feb 2025 – March 2025

- Reduced data processing time by 50% by automating ETL workflows, fetching and cleaning 10K+ NBA player stats (RAPIDAPI) into an optimized MySQL database.
- Enhanced query performance by designing a structured schema for real-time stat retrieval (Pandas).

Charting Exoplanet Habitability - A Celestial Classifier

| Python, PyTorch, NumPy, Scikit-learn, pandas, Neural Networks, Machine Learning

Oct 2024 – Dec 2024

- Achieved 90% model accuracy in classifying exoplanet habitability, training a neural network in 150 epochs.
- Reduced feature engineering time by 30% using automated data preprocessing (pandas, sklearn).

TECHNICAL SKILLS

Languages: Java, Python, C, SQL, Bash, JavaScript, Haskell, R, MATLAB, SAS

Frameworks: React, Node.js, Flask, Django, JUnit, Kubernetes, Scrum

Developer Tools: Git, GitHub Actions, Docker, Unix/Linux, GCP, AWS, Jira, Confluence, PowerBI, IntelliJ, Excel

Libraries: pandas, NumPy, PyTorch, Tensorflow, Keras, sklearn, Matplotlib

EXTRA-CURRICULAR EXPERIENCE

Internal Vice President

Oct. 2022 – Present

Asian Federation of Charitable University Students

Hamilton, ON

- Effectively managed a multi-level recruitment and selection process for 150+ applicants while ensuring the seamless integration of new representatives into the existing team through team-bonding events and initiatives.