Zain Rizvi

(416) 528-1148 | Zain4Rizvi@gmail.com | ZainRizvi.ca | linkedin.com/in/zain4rizvi | github.com/Zain4Rizvi

EDUCATION

University of Toronto Sep. 2022 – Oct. 2026
Honours Bachelor of Science, Computer Science & Mathematics Double Major *Toronto, ON*

- **Coursework:** Machine Learning, Artificial Intelligence, Probability, Data Structures, Algorithms

WORK EXPERIENCE

Purolator Inc. May 2025 – Dec. 2025
Data Scientist Intern *Mississauga, ON*

- Cut forecast error 75% (4% to 1% MAPE) vs. prior forecast, validated on 5 years of data across 10M+ shipments
- Enabled 50x more route forecasts by compressing 50+ routes into 5 **PCA** components with **STL** and **ARIMA**
- Cut pipeline runtime from 25 to 3 min and added new terminals via demand reconstruction in **Python** and **R**
- Gave 100+ stakeholders live capacity visibility by automating executive KPI reports in **QlikView** and **Excel**

Ontario Ministry of Transportation May 2024 – Aug. 2024
Data Analyst Intern *Toronto, ON*

- Reconciled $1M+ in commercial vehicle payments by building algorithmic outlier detection in **Python** and **Excel**
- Accelerated payment processing by 95% across 130,000+ records by automating reconciliation in **Python**
- Shipped AODA-compliant features for Ontario's towing-safety enforcement app using **Angular** and **Spring Boot**

PROJECTS

Language Guided Robot Arm robotics.zainrizvi.ca

- Hit 9/10 grasp and 5/10 stack success by fine-tuning the action expert of 450M-parameter SmolVLA in **PyTorch**
- Visualized attention across all 16 layers in a **React** and **Three.js** app to support model interpretability
- Built a 7-joint **MuJoCo** arm sim with scripted experts hitting 87% on bin throws, 90% on peg insertions

ReplayLab: Rocket League Replay Analyzer rocket.zainrizvi.ca

- Created a **LangChain** AI assistant used to coach the UofT Rocket League team by answering match questions
- Engineered LLM tool calling in **Python** to ground answers in structured match metrics and player telemetry
- Deployed a 3D replay dashboard with **Docker** and **Cloudflare** so coaches can review the moments the AI cites

Stick Drift (Hack the Valley 11) stickdrift.health

- Flagged Parkinson's, stroke, and tremor signs from controller motion with a temporal **convolutional network**
- Generated hundreds of acted-out gameplay sessions plus research-based synthetic data to improve model accuracy
- Streamed play (0.1 s lag) to a caregiver dashboard with recovery trends via **FastAPI** and **WebSockets**

AWARDS

- **1st Place**, UofT AI Olympics Hackathon
- **2nd Place**, MTO Road Safety Solutions Hackathon
- **Award Winner**, UofT Hack the Valley 9
- **Scholarships**: Frank Faubert Scholarship, Admission Scholarship

TECHNICAL SKILLS

Languages: Python, C++, SQL, Java, R, C
Libraries: PyTorch, Scikit-learn, XGBoost, LangChain, Spring Boot, Pandas, NumPy, Polars
Tools: Docker, AWS (Cloud Practitioner), Git/GitHub, REST APIs, Postman, MySQL, Cloudflare