

# Shravan Agnihotri

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## EDUCATION

### Queen's University

Bachelor's Degree (Honours) in Computing, Major in Artificial Intelligence, Minor in Statistics

Kingston, ON

GPA: 3.8/4.3

## WORK EXPERIENCE

### Data Science Intern | Manulife | GenAI Team | Group Benefits | Group Functions | Apr 2025 – Aug 2025, Apr 2026 – Aug 2026

- Built and deployed **full-stack agentic AI** POA (power of attorney) analyzer for Manulife's legal segment, featuring human-in-the-loop override controls and a **markdown visualizer**, validating documents against state-specific rules via LLM across **6 checkpoints**, cutting review time **from 30 to 5 minutes for 40,000+ documents annually**.
- Prototyped an LLM memory layer framework to reduce hallucinations and **boost decision efficiency by 32%**.
- Built and deployed **fraud detection model** for dental claims, flagging over **\$30 000 000 in potential violations**, and worked with the **Canadian AI Team** to deliver insights and data driven projects **used by 50+ stakeholders**.
- Designed an **end-to-end anomaly detection pipeline** for narcotics claims data using an **unsupervised random isolation forest** algorithm to generate **1000+ outlier leads** using **SHAP values** for interpretability and **feature importance**.

### Full Stack Developer | Tricode

Apr 2025 - Aug 2025

- Contributed to **frontend and backend** systems for TriHire, used by **1000+ students**, building modular production-ready features using database migrations, **API integrations** and **CI/CD pipelines**, improving deployment **reliability by 22%**.

### Data Analyst Intern | Sun Life

May 2024 - Dec 2024

- Played a vital role in an **AWS conversion** project, transitioning **over 15 products** from **SQL Server** to **AWS** data sources, enhancing **cloud computing proficiency** and streamlining **data workflows**.
- Worked in the **Canada Reporting COE Team**, to develop **detailed data source documentation**, successfully replaced **100% of legacy data sources in Tableau**, and **resolved all** reference and inconsistency issues ensuring data reliability.
- Reduced 20% data discrepancies** by conducting **rigorous data validation** and testing to ensure data verification across **20+ reports** and creating new data sources using **Tableau Prep** inclusive of hierarchies stored on **AWS**.

## EXTRA CURRICULAR EXPERIENCE

### Co-Chair | Analytics Director | Queen's Sports Analytics Organization (QSAO)

Sep 2025 - Current

- Designed and **delivered 5+ hands-on analytics tutorials** (regression, clustering, salary prediction, player evaluation) **reaching 80+ students** across skill levels. Primary contact point for analysts to cross check data driven articles.
- Judge for an **MLB analytics case competition** with **100+ participants**, evaluating statistical rigor, feature engineering decisions, model assumptions, and clarity with which **analytical results** were translated into meaningful insights.

### Executive Academics Chair | Queen's School of Computing

Sep 2024 - Jan 2026

- Directed **academic programming** and events, including the **Computing Showcase**, impacting over **500 incoming students** and collaborating with **20+ faculty, clubs, and professors**.
- Planned and executed **large-scale** orientation logistics training **100+ student leaders**, shaping Queen's culture and serving as role model. Drove **\$50 000 + in ticket sales** to fund events, equipment, supplies and bookings for Queen's University.

## PROJECTS

### UTSPAN X MLSE 2026 Data Challenge | Python, Pandas, Scikit-learn | Time-Series Modeling | Jan 2026 - April 2026

- Engineered **300+ kinematic features** from **temporal joint trajectories** for **basketball free-throws**, capturing **release angle, depth, and left-right** alignment through normalization, peak-based alignment, and trajectory-shape statistics.
- Built and evaluated 10+ regression models** (including Ridge and feature-blended ensembles), iteratively refining feature sets and making domain-driven decisions based on visualizing errors and trends from within training data.
- Achieved a best **mean squared error (MSE)** of **~0.008**, approaching **top 10 leaderboard-level** performance through model ensembling, **residual correction** techniques, and **systematic hyperparameter tuning** validated across cross-validation folds.

### TriAID | Multimodal Clinical Decision System |

Nov 2025 - April 2026

- Built a multimodal ML system on **~26,000 cases** (CV + NLP + structured data) to predict follow-up actions (**X-ray, CT, none**), achieving **~80% F1 score** via classification and calibrated threshold tuning, with dynamic front-end.
- Developed a **production-ready end-to-end pipeline** feature fusion → model → API → database with **LLM-based explainability**, improving decision reliability under **class imbalance** and **cost-sensitive tradeoffs**.

## TECHNICAL SKILLS

- Languages and Data:** Python, SQL, R, Java, JavaScript, Agentic AI, Pandas, NumPy, Scikit-learn, SHAP, LLMs
- Cloud & Big Data:** PySpark, Azure Databricks, AWS (S3, RDS, Glue), ETL, CI/CD, Git, RAG, MLOps
- Web Development & Visualization:** Flask, Node.js, React, Next.js, Tailwind CSS, Tableau, PowerBI, Seaborn, Matplotlib