Aaron Rahman

226-500-6612 | aaronsrahman@gmail.com | linkedin.com/in/aaronrahman | github.com/aaronrahman | My Portfolio

Technical Skills

Languages: Python, Java, R, TypeScript, C, C++, JavaScript, SQL, XML, LaTeX, HTML/CSS
Frameworks/Libraries: TensorFlow, Keras, Scikit-learn, React, Linux, Roboflow, YOLO, Pandas, Polars, Matplotlib
Developer Tools: Git, VS Code, PyCharm, Figma, IntelliJ, Eclipse, Brackets, Jupyter, Anaconda, Unity, Unreal, Qt

Education

University of Western Ontario London, ON
Honours Specialization in Computer Science *September 2022 – April 2026 (expected)*
Minor in Game Development

- Introduction to Machine Learning
- Statistics for Science
- Artificial Intelligence I
- Data Structures & Algorithms I, II, & III
- Introduction to Software Engineering

Experience

Software Developer October 2022 – February 2023
Western AI

- Contributed to the development of an **AI agent** for **CS:GO**, designed to mimic **human-like gameplay** by incorporating **object detection** and realistic movement behaviors.
- Implemented the **A*** algorithm to simulate intelligent navigation, allowing the bot to move around the game map with **human-like pathfinding** instead of optimal, perfect routes.
- Applied **computer vision** techniques using **YOLOv7** to train the AI on recognizing and interacting with key game elements, including players, bombs, and diffusal sites through real-time object detection.
- Leveraged **Roboflow** to annotate and preprocess thousands of in-game screenshots for **training** object detection models, enhancing AI's accuracy in dynamic game environments.

Projects

NBA Playoff Predictor | *Python, XGBoost, Scikit-learn, Pandas, Matplotlib, Google Colab* March 2025

- **Predicted** the outcome of NBA first-round playoffs by leveraging **individual player statistics** rather than traditional team-level data, providing a more granular approach to game prediction.
- **Processed** raw NBA data, handling missing values and **structuring** player stats across multiple seasons. Developed custom pipelines to **extract key metrics** like player efficiency and game statistics.
- **Applied XGBoost** to predict first-round outcomes, achieving **71% test accuracy**. **Optimized** model using **RandomizedSearchCV**, fine-tuning parameters.
- **Conducted** thorough **feature importance analysis** to identify key predictors, such as player efficiency, player age, and historical performance, **enhancing** model interpretability and robustness

LockedIn | *Python, Streamlit, MediaPipe, Google Gemini, Vertex AI, Google Cloud* January 2025

- **Engineered** an **AI-driven study hub** integrating posture detection, yoga pose tracking, and an AI study assistant, enhancing focus, time management, and physical well-being.
- **Developed** a **dynamic yoga pose detection** system using **Gemini AI** to generate real-time **MediaPipe** models based on user-selected poses, enabling personalized yoga sessions.
- **Optimized** real-time posture tracking by transitioning from **YOLO** to **MediaPipe**, improving **efficiency** and reducing computational overhead for a seamless user experience.
- **Built** an **interactive web application** using **Streamlit**, integrating AI-powered note-taking, Pomodoro timers, and guided stretching exercises to enhance study sessions.