Arjayn Piratheeparatnam

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EDUCATION

Western University — London, ON
Bachelor of Science in Computer Science — *Expected Graduation, May 2027*
- **Related Coursework:** Data Science, Machine Learning, Data Structures and Algorithms, Operating Systems
- **Concentration:** Artificial Intelligence, Data Science, Software Engineering

EXPERIENCE

EMRC Labs — Nov. 2025 – Present
Full Stack Developer & AI/ML Researcher — *London, ON*
- Built and maintained a full-stack internal web platform using React, Node.js, Express, and SQL/NoSQL to centralize equipment booking, tracking, and administrative workflows for research staff and students.
- Developed an admin dashboard to monitor 50+ equipment assets, user activity, and equipment status, enabling faster operational decisions and improved accountability.
- Conducted applied AI/ML research in computer vision and image processing, working with SLAM, ROS, and Gazebo for robotics and mobility modeling.

Western Baja Racing — Sept. 2025 – Present
Full Stack Developer - Electronics & Telemetry — *London, ON*
- Developed a full-stack inventory management web application using React, Node.js, and MySQL to track $20,000+ worth of parts, suppliers, and purchase history
- Built reusable UI components with React and Tailwind CSS to streamline request and approval workflows
- Developed backend APIs in Node.js with a MySQL database to track inventory levels, suppliers, and purchase history, using Docker to ensure consistent development and deployment environments

Western Formula Racing — Sept. 2025 – Present
Embedded Software Developer — *London, ON*
- Reviewed and tested C++ firmware for the driver dashboard to identify bugs and refactor fragile logic, improving system reliability and long-term maintainability
- Developed front-end interfaces for the team's car data logger to visualize run and sensor data, improving engineer access to performance insights and post-run analysis
- Collaborated with hardware teams to integrate dashboard and data-logging features with existing vehicle systems, ensuring reliable real-time data flow and system compatibility.

Western AI — Sept. 2022 - Apr. 2023
Technical Project lead — *London, ON*
- Led a cross-functional team to deliver a prototype 24/7 university FAQ chatbot, defining scope, milestones, and task ownership while contributing to implementation
- Contributed to the chatbot's NLP model implementation in PyTorch with BRNN-based intent classification and supported evaluation/testing to improve response accuracy to 80%
- Deployed the embedded chatbot UI on Vercel and validated demo readiness with 200+ test queries.

PROJECTS

Gov AI - Decentralized Polling System - MLH Best Use of Solana (Winner) — Nov 2025
- Developed a decentralized polling platform on Solana to enable cryptographically secure, on-chain voting, supporting Phantom, Solflare, and Backpack wallets
- Built a React/Next.js frontend with wallet verification, vote-casting logic, and real-time blockchain state syncing, improving vote confirmation speed and UI responsiveness
- Integrated AI agents for poll analysis and fraud detection, generating natural-language insights and flagging anomalous voting behavior

TECHNICAL SKILLS

- **Languages:** Python, Java, C/C++/C#, SQL/NoSQL/PostgreSQL, JavaScript, HTML/CSS, TypeScript, R, Scala, Go
- **Frameworks:** React, Express, Node.js, jQuery, Flask, Bootstrap, PySpark, Apache Airflow
- **Developer Tools:** GitLab, VSCode, Visual Studio, PyCharm, IntelliJ, Eclipse, Docker, Linux
- **Libraries:** Pandas, NumPy, Matplotlib, TensorFlow, PyTorch, Keras, scikit-learn