

# Manan Saini

Oakville, ON

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## EDUCATION

### Queen's University

*Mechatronics & Robotics Automation Engineering*

**Related Coursework: Embedded Systems, Data Structures and Algorithms.**

Kingston, ON

Sep. 2023 – May 2027

### IBM Certificate

*Machine Learning with Python*

Nov. 2025 – Jan 2026

## PROFESSIONAL EXPERIENCE

### Full Stack Developer

*CFDF Promo*

Jan 2026

*Remote*

- Architected and deployed a responsive promotional website using **React.js** and **Tailwind CSS**.
- Implemented automated **frontend tests** (e.g., Jest/React Testing Library) and Lighthouse audits to guard against regressions in accessibility and performance.

### Co-Founder

*Connex*

Nov 2025 – Present

*Remote*

- Founded a B2B marketplace startup, defining the product roadmap and executing strategies to secure initial users.
- Architected a scalable full-stack web platform using **React** and **Node.js**, integrating a secure **SQL** database for seamless dual-side user management.
- Engineered a **Scikit-Learn (AI)** recommendation engine to automatically match clubs with vendors based on demographic data and event requirements.

### Project Manager Intern

*Spring Valley Corp*

May 2024 – Aug. 2024

*Hamilton, ON*

- Developed a production scheduling calculator in **Python**, integrating failure rates, mold availability, and future production projections to streamline project timelines
- Led as Project Manager for **\$152M development** in Manhattan, NYC, achieving a **500% boost** in production and bringing **rejection rates from 45% to 13%**.
- Collaborated with a 3-person team to the design of a **C++** program for automating and generating financial statements.

## EXTRACURRICULAR EXPERIENCE

### Software Navigation Member

*Queen's Aerospace Design Team*

Sept 2024 – Apr 2025

*Kingston, ON*

- Debugged and tuned **ROS 2** navigation and sensor-fusion pipelines, using simulation logs and telemetry to trace failures, fix edge-case bugs, and stabilize autonomous waypoint missions.
- Engineered a closed-loop payload control system using **Arduino and Python**, achieving **µ200ms** actuation latency via real-time sensor integration.

## PROJECTS

### Autonomous Delivery Robot | *Python, C++, ROS2, Linux*

Jan 2025 – Apr 2025

- Collaborated with a 4-person team to engineer a contactless delivery robot using **ROS 2** and **Lidar** sensor fusion to transport medical supplies in quarantine environments.
- Implemented **SLAM Toolbox** for real-time 2D mapping, achieving **95%** autonomous navigation success.
- Integrated **RViz** for live telemetry visualization to monitor localization with **µ200ms** latency.

### AI Intelligent Vision for Product QC | *Python, AWS, AI*

Jan 2026

- Engineered an automated AI pipeline using **AWS Rekognition** to identify defective PCBs within industrial quality control environments.
- Optimized classification performance by tuning detection thresholds, achieving a **0.88 F1-score** to ensure high-reliability defect identification.

## TECHNICAL SKILLS

**Languages:** Python, C/C++/C, SQL, HTML/CSS, React.js, Java, MATLAB, VHDL, NIOS II Assembly.

**Software Tools:** Docker, SolidWorks, Siemens TIA, Fusion 360, LTSpice, SimuLink, ROS2, PX4, Gazebo, Quartus

**Libraries:** pandas, NumPy, Matplotlib, OpenCV, scikit-learn, PyTorch, TensorFlow, Flask, AWS, Docker, GenAI

**Productivity Tools:** Word, Excel, PowerPoint, Git, GitHub, Jira, Slack, Linux