

Thomas Bianco

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Available for 12-16 Month Internship Placements

KEY COMPETENCIES

Technical Skills: AI, Machine Learning, Reinforcement Learning, Python, PyTorch, Transformers, C, C++, Java, Typescript, CAD Design

Analytical Skills: Data-driven decision making, Problem solving, Critical thinking.

EDUCATION AND AWARDS

Queen's University Mechatronics and Robotics Engineering

Kingston, ON

3rd Year | **4.1 GPA** (4.3 Scale)

Graduation in 2028

Awarded the Dean's Scholar Distinction Award (On behalf of Queen's Smith Engineering for outstanding academic performance)

RELEVANT ENGINEERING EXPERIENCE

QUARRG/Ingenuity Labs Autonomous Robotics Research

Undergraduate Student Research Assistant

May 2026 – August 2026

Developing autonomous robotic systems that solve task assignment utilizing localized algorithms and agents, trained neural network policies and transformer architectures.

Mosaic Manufacturing

Engineering Co-Op

May 2025 – August 2025

Developed python based quality control scripts to verify stability in release candidate testing. Reduced QA testing time by over 50% while increasing software stability.

ADDITIONAL WORK EXPERIENCE

Mosaic Manufacturing | *Pilot Unit Assembler/Intern*

June 2023 – July 2023

Virtual Sting - Upper Canada Mall | *Helper/Tech Associate*

August 2022 – June 2023

PERSONAL PROJECTS

- **MREN 203 Autonomous Rover** May 2026
- **"Axis" AI Robotic Control Model** September 2025
- **Advanced 3D printer Filament Storage Solution** January 2025
- **AI Fake News Detector** June 2024
- **AI Stock Bot** May 2023
- **Building a Voron 3D Printer** March 2023
- **Custom Build Racing Drone** May 2021
- **Autonomous Drone** August 2020

EXTRACURRICULAR ACTIVITIES

FITenth Design Team

2025 – Present

The Ingenuity Labs FITenth designs and builds an autonomous RC car that is able to perform speed trials and head to head races. Running ROS2 with Cartographer and SLAM our car secured 13th on the international stage at ICRA in Vienna, Austria in our first ever major race.

Relectric Design Team

2024 – Present

Relectric is a Queen's funded design team which has engaged in projects such as electrifying a '97 Jeep TJ and building an electric go-kart for the Purdue evGP where we placed 3rd in efficiency, 4th in design, 7th in the race and 5th overall.