Purujit Kantiya

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Education

B.A.S.c - Mechatronics and Robotics Engineering Sep 2024 – May 2028

Grade: 4.0 Queen's University

- Awards: Deans Honor Distinction, Queen's Engineering Competition 1st Place
- Extracurriculars: Aerospace Design Team, Hyperloop Design Team, QHacks, Merlin Neurotech

Professional Experience

Construction Engineering Intern - Tatham Engineering `May 2025 – Aug 2025

- Supported construction site inspections to monitor progress, verify quality, and ensure adherence to design specifications.
- Reviewed contractor submittals, including construction schedules, shop drawings, and material specifications, to ensure compliance with project requirements.
- Collected and analyzed survey data to confirm accuracy of contractor work and support progress verification.
- Provided technical guidance and recommendations to contractors on construction methods, sequencing, and compliance with municipal standards.

Extracurricular Experience

Systems Integration Team Manager - Queen's Aerospace Design Team May 2025 – Present

- Lead a team of 10 students in the design, integration, and testing of electrical and software systems for a fixed wing UAV, including avionics, telemetry, and control systems.
- Plan and conduct systems tests, including full flight performance reviews using sensor data to quantify performance.
- Oversee component selection, procurement, and cost tracking to stay within project budget and timeline.
- Coordinate with structures and aerodynamics teams to align system requirements and optimize aircraft performance.

Simulation Team Member - Queen's Aerospace Design Team Sep 2025 – Present

- Contributing to the development of a multi-drone swarm simulation for presentation at the 2026 ICUAS conference, using ROS2, Gazebo, and a Linux-based workflow.
- Designing and implementing ROS2 nodes that perform specific autonomous functions within the swarm.
- Using Git for version control, collaborative development, and code review to ensure reliable and maintainable simulation software.

Chief Technology Officer - Queen's Merlin Neurotech Aug 2025 – Present

- Oversee technical operations for a multidisciplinary team of research groups working on neurotechnology projects.
- Provide technical guidance and troubleshooting across hardware and software systems to ensure smooth progress of all sub-teams.
- Establish and maintain technical documentation, ensuring reproducibility, knowledge transfer, and long-term continuity.

Power Systems Team Member - Queen's Aerospace Design Team Sep 2024 – Apr 2025

- Created and tested a 44V to 15V buck converter to optimize power delivery for avionics.
- Conducted circuit simulations and performance analysis in LTSpice to validate efficiency and stability.
- Welded, insulated and wrapped custom 12S lithium battery packs, ensuring safe assembly and reliable operation.

Projects

Strain Monitoring System - Ingenium Museum Jan 2025 – Apr 2025

- Led technical development of a strain measuring device using a ESP32, HX711 ADC, and Wheatstone bridge, achieving 2000 με measurement range with 2% error.
- Programmed real-time data logging, Wi-Fi transmission, and automated email alerts for strain thresholds.
- Designed and tested a 3D-printed enclosure, circuitry and validated prototype accuracy through cantilever beam experiments.
- Helped deliver full technical documentation and prototype to client within $116 budget (<10% over forecast), meeting all functional requirements.

Technical Skills

Design: Solidworks CAD, Onshape, LTSpice, Altium, QGroundControl, KiCad, Altera Quartus II, Arduino

Programming: Python, C++, VHDL, ROS2, Linux, Docker, Git

Productivity: Word, PowerPoint, Excel

Languages: Sindhi (Fluent), English (Fluent)