NICHOLAS PIRAINO

Kelowna, BC, Canada | 613-349-4179 | nic.piraino2005@gmail.com
nicpiraino.com | linkedin.com/in/nic-piraino | github.com/NiccTM

EDUCATION

The University of British Columbia, Okanagan Campus, Kelowna, BC
Bachelor of Applied Science, Electrical Engineering, Sep 2023 – May 2028; Master of Management, dual-degree program, May 2028 – Apr 2029 (both expected)
Awards and affiliations: 1st and 3rd Place, APSC 169 Design Competition, 2023; 3rd Place and Top 14 Finalist, APSC 171 Design and SolidWorks Competitions, 2024. Student member, Engineers and Geoscientists BC and CIGRE

EXPERIENCE

Measurements International Ltd., Johnstown, ON | Hardware Engineering Intern, May 2026 – Aug 2026
- Laid out and assembled two ADR1000-based ovenized buried-Zener voltage reference boards for a 1000 A source to a senior engineer's design direction, scaling the reference's measured 7.107 V output through a bulk-metal-foil gain network sized from a candidate-value study; partitioned heater, reference, power, and output returns to limit thermal EMF; first unit read 9.9999927 V on an HP 3458A 8.5-digit multimeter before calibration
- Revised nine OrCAD schematics for a precision AC impedance bridge under senior engineer direction, covering control, DAC, 10 MHz clock and USB galvanic isolation, USB-to-serial, power, output, memory, and temperature regulation; corrected errors and standardised net naming
- Routed the DAC card to completion with polygon pours and a defined ground return, then specified and executed a 6-layer stackup conversion for the control card, re-routing it against internal signal-integrity and manufacturability guidelines
- Assembled five cryogenic current comparator instrument PCBs: primary current source, two secondary current sources, control, and MCU upgrade, completing the primary and first secondary source boards

Measurements International Ltd., Johnstown, ON | Hardware Engineering Intern, May 2025 – Aug 2025
- Ran a two-month fault investigation on an 8000B binary voltage divider, comparing Rev. 2 and Rev. 4 artwork on Mylar overlays, rebuilding the schematic from PCB traces, and modelling stages in LTspice. Traced the fault to eight relays latched wrong, a missing mount pin, a defective resistor, and finally relay K47, whose contacts read 800 against a normal 160 milliohms
- Migrated EAGLE and OrCAD symbol and footprint libraries into an Altium component database, splitting libraries by category, linking every footprint to a 3D model, and re-importing completed boards against it; trained a co-worker on the toolchain
- Reworked six existing board layouts in OrCAD and Altium across current-comparator and 6020HR instruments, adding polygon pours, custom via padstacks, and dedicated power and ground layers; released Gerber and NC drill files

Measurements International Ltd., Johnstown, ON | Hardware Engineering Intern, May 2024 – Aug 2024
- Migrated legacy schematics into multilayer EAGLE PCB layouts, revising placement and routing for signal integrity and manufacturability

PROJECTS

Okanagan Rover Craft, UBC Okanagan | Electrical Engineer, Sep 2025 – Present
- Designed a 24 V lithium iron phosphate (LiFePO4) power-distribution architecture with a battery management system, main fuse, contactor, and fused branch circuits; built telemetry interfaces for the team's Canadian International Rover Challenge vehicle

Aerial Robotics and Rocketry Club, UBC Okanagan | Electrical Engineer and FPV Head Researcher, Sep 2023 – Sep 2025
- Authored the first-person-view technical proposal and presented its budget to the CEO of Sanmina Corporation, securing CAD 5,000 in sponsorship; assembled and diagnosed the analog video chain with precision soldering and component-level troubleshooting

Custom 3-Phase Brushless DC Motor, ENGR 320 | Team Lead, Jan 2026 – Apr 2026
- Led a five-person team building a 9-slot, 8-pole Wye BLDC to a CAD 100 budget, delivered at CAD 94.92 with 200 hand-wound turns per pole of 24 AWG copper
- Diagnosed near-zero torque as two separate faults: an all-PLA stator, relative permeability near 1, left reluctance dominating the flux path, fixed with iron stator teeth; and an ABCABCABC winding cancelled torque, fixed by specifying an AaABbBCcC rewind

EcoSort Waste Classifier, CMPE 246 | Team Lead, Jan 2026 – Apr 2026
- Led a student team building a Raspberry Pi 5 and IMX219 YOLOv8 classifier for five UBC waste streams, using background subtraction, a 640 x 640 crop, a 1.5 second auto-scan, and a 65 percent confidence floor to drive a servo diverter flap

SKILLS

Schematic and PCB: Altium Designer, Cadence OrCAD Capture CIS and PCB Editor, KiCad, Autodesk EAGLE, LTspice, electronic design automation (EDA), schematic capture, PCB layout, multilayer routing, design rule check (DRC), Gerber and NC drill generation, signal integrity, design for manufacturability, soldering, rework, reverse engineering, SolidWorks, AutoCAD
Embedded, Software and Test: Embedded C, Python, C#, MATLAB, Simulink, Raspberry Pi, Arduino, I2C, SPI, UART, CAN, USB, PWM, ADC and DAC, motor control via ESC, Git; HP 3458A 8.5-digit multimeter, oscilloscopes, bench power supplies, precision DC measurement, PCB bring-up