

VALENTINO CATTANEO

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West Lafayette, Indiana | Work availability: January 2026 – August 2026 (Co-op / Internship)

EDUCATION

Purdue University, College of Engineering

West Lafayette, IN

Bachelor of Science in Electrical Engineering. GPA: 4.0

Graduation Date: December 2027

Relevant Coursework: E&M Physics, Advanced C, Digital System Design

Northlands School

Buenos Aires, Argentina

IB Diploma, Ranked 1/55

Graduation Date: December 2023

PROFESSIONAL EXPERIENCE

Undergraduate Research Assistant, Purdue Power Electronics and Drives Research Lab June 2024 – Present

- Modified two 3-phase motor drives to control a 6-phase drone PMSM using single DQ transform FOC.
- Developed embedded FOC firmware using STM software tools and TI + Simulink integrations.
- Designed and soldered an encoder PCB board to perform Sensored motor control using KiCAD.
- Programmed and interfaced the encoder PCB with our motor driver through SPI communication.
- Troubleshooted various FOC model parameters using high-end oscilloscopes and LCR meters.

Mathematical Olympiads Tutor, Northlands School, Buenos Aires, Argentina

March 2024 – July 2024

- Tutored a group of 15 Mathematical Olympiad students aged 15 to 18 up to the Nationals phase.
- Explained principles of Combinatorics and Geometry for application in competitions.
- Collaborated with the Math Department to align the teaching curriculum with competition exams.

LEADERSHIP AND INVOLVEMENT

President, VFS Purdue, GoAERO VTOL Competition, Purdue University

August 2024 – Present

- Led team of 20 to win the US University Innovation Award in the GoAERO Competition.
- Sized, selected, and soldered the drone's powertrain for the 32kg prototype autonomous quadcopter.
- Designed wiring, selected components, soldered, and integrated software for all Avionics in ArduPilot.
- Conducted the prototype's flight testing campaign to validate hardware in autonomous flight.
- Developed a MATLAB model for preliminary multirotor weight and battery sizing.
- Cut and drilled carbon-composite spars for the arms and landing gear and assembled them onto the drone.

AWARDS & SKILLS

Honorable Mention: Selective Test for the International Mathematical Olympiad (IMO).

May 2022

Technical Skills: MATLAB, Simulink, C, C++, Python

Languages: Spanish: proficient, English: proficient

<https://www.linkedin.com/in/valentino-cattaneo>

<https://valencast9.github.io/>