

# VALENTINO CATTANEO

100 S Chauncey Ave, West Lafayette, IN | (561) 866-6924 | Portfolio: [valencast9.github.io](https://valencast9.github.io) | vcattane@purdue.edu

## EDUCATION

**Purdue University**, College of Engineering

West Lafayette, IN

**Bachelor of Science in Electrical Engineering**, GPA 4.0/4.0

Graduation Date: December 2027

Relevant Coursework: Advanced C, Electromagnetic Interactions, Circuits 1

**Northlands School**

Buenos Aires, Argentina

IB Diploma 36/45, Ranked 1/55

Graduation Date: December 2023

## PROFESSIONAL EXPERIENCE

**Undergraduate Research Assistant, Purdue University ECE Department**

June 2024 – Present

- Modified two 3-phase motor drives to control a 6-phase drone PMSM using single DQ transform FOC.
- Rewired 3-phase motor windings to implement a 6-phase wye and double delta configuration.
- Developed FOC firmware using STM software tools and TI + Simulink integrations.
- Troubleshooted FOC software generation 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

**Vice President, VFS Purdue**, GoAERO VTOL Competition, Purdue University

August 2024 – Present

- Led team of 20 to win the US University Innovation Grant by NASA in International GoAERO Competition.
- Developed a MATLAB model for preliminary multirotor weight, power electronics, and battery sizing.
- Designed wiring, selected components, soldered, and integrated software for all avionics and power systems.
- Cut and drilled carbon-composite spars for the arms and landing gear and assembled them onto the drone.
- Designed and 3D-printed miscellaneous items (avionics mounts, adapters, cable covers) using Fusion 360.

**Head Boy**, Northlands School, Argentina

February 2023 – December 2023

- Supervised all student-related activities and organizations and managed their interactions with administration.
- Dealt daily with administration to secure spaces, time and resources for said projects and activities.
- Conducted school-wide assemblies and delivered speeches to 500+ attendees from all Northlands.

## AWARDS & SKILLS

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

May 2022

Technical Skills: MATLAB, C, C++

Languages: Spanish – native, English – bilingual