Carlota Champalimaud

Ithaca, NY 14850 | +1 (240) 889-5477 | cbc97@cornell.edu
https://www.linkedin.com/in/carlota-champalimaud | www.carlotachampalimaud.com

EDUCATION

Cornell University, College of Engineering, Ithaca, NY **Expected May 2026**
Bachelor of Science in Mechanical Engineering, Minor in French
Relevant Courses: Statics and Mechanics of Solids; Thermodynamics; Multivariable Calculus; Differential Equations; Mechanical Synthesis; Linear Algebra, Dynamics; Automotive Engineering; Heat Transfer; Mechatronics

PROFESSIONAL EXPERIENCE

CSN – Companhia Siderúrgica Nacional

São Paulo, Brazil, *Innovation Engineering Intern* **June – July 2025**

- Evaluated 3 technical proposals for niobium and tantalum recovery considering extraction and cost efficiency
- Analyzed 3 hydrogen-reduction concepts for producing green steel from BOF steel slag briquettes
- Assessed the viability of building a 30,000 nm^3/day biomethane plant for both in-house use and external sale
- Examined residual tension effects on steel sheet flatness, contributing to a 17% reduction of its rejection rate

São Paulo, Brazil, *Operations & Research Engineering Intern* **July 2024**

- Researched hydrogen solutions, evaluating fuel cells and engines to cut CO_2 emissions by over 400 tons annually
- Analyzed over 200 BIL and IRA grants and applied for $ 400M for the deployment of a small Modular Reactor

Cimentos LIZ

Minas Gerais, Brazil, *Operations & Maintenance Engineering Intern* **May – June 2025**

- Assisted repair and realignment of clinker cooler on main furnace, resolving a 1-month production stoppage
- Coordinated gearbox overhaul on Mill III and welding repair of Mill IV separator during extended shutdowns

Portugália Airlines

Lisbon, Portugal, *Operations Engineering Intern* **June 2024**

- Compared over 1000 flights to understand the 10% lower achievement rate for the Continuous Descent Approach compared to their brother airline, TAP, and reported on a solution reducing CO_2 emission by over 20kg per flight
- Participated in discussions with pilots to understand underperformance of the CDA in terms of human factors

LEADERSHIP

Baja Racing Project Team, Cornell University, *Drivetrain Team Member* **October 2022 – Present**

- Worked with a team of 50 students to design and build an off-road vehicle at the Baja SAE Collegiate Design Series
- Designed and built firewall, CVT guard, and hubs using SolidWorks, aluminum fabrication, and carbon fiber lay-up
- Produced technical drawings for outsourced CVT guard welding, optimizing gasket pressure increasing tab spacing
- Validated CVT guard and rear hubs through FEA stress and thermal simulations and tested on car with thermal strips
- Coordinated outsourced manufacturing with external vendors and verified assembly accuracy of components
- Presented design reviews to faculty advisors, communicating technical trade-offs and justifying design decisions
- Fabricated drivetrain components through manual machining, composite layups, cutting, drilling, and welding

CAMPUS INVOLVEMENT

Cornell Women's Polo, Ithaca, NY, *Varsity Athlete for Cornell's Polo Team* **August 2023 – Present**
Introduction to Mechanical Engineering, Teaching Assistant (TA) **August 2025 – Present**
Mechanical Design, Teaching Assistant (TA) **January 2025 – May 2025**
Calculus 1 and 2, Course Assistant **August 2023 – May 2024**
Society of Women Engineers, Member **August 2022 – Present**
Women of Aeronautics and Astronautics Organization, Member **August 2023 – Present**
Cornell Car Club, Member **August 2022 – Present**

SPECIALIZED SKILLS AND INTERESTS

Programs: Manual Machining, SolidWorks, MATLAB and Python (Beginner), Microsoft Office (Intermediate)
Languages: Portuguese (Native); English (Native); Spanish (Fluent); French (Fluent)
Interests: Horse Riding, Polo, Skiing, Volleyball, Formula 1, Cooking and Baking, Debating, Exploring New Restaurants