



Stephanie Matta Bobadilla

Control Engineer & Power Systems Specialist

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Language

- Spanish - Native
- English - Bilingual
- French – B2
- Mandarin - HSK3

PRESENTATION

Systems-level engineer with experience in renewable energy networks and optimization. Skilled in developing AI and data-driven solutions of decentralized networks and markets, with a strong background in control systems, machine learning, and power system analysis. Currently completing a Triple Degree Master's in renewable-based power systems.

EXPERTISE

- Machine Learning & Data: Python, surrogate modeling, neural networks, data pipelines, MySQL.
- Power Systems & Grid Simulation: MATLAB/Simulink, PSCAD, PSSE, DigSILENT PowerFactory, NEPLAN, Eurostag, MATPOWER, GridCal.
- Power System Analysis: stability studies, EMT simulation, load and optimal power flow, fault analysis, converter switching dynamics.
- Control, Optimization & Game Theory: Julia, Multi-agent systems, convex optimization, gradient-based methods, Generalized Nash Equilibria (GNE), planning and coordination, multi-parametric/combinatorial solutions.
- Computational & Software Engineering: open-source solver development, Git collaborative workflow (PRs, code review), CI/CD (GitHub Actions).

WORK EXPERIENCE

SUJIO 2024-Present
R&D Developer & Commercial Engineer

- Built SCADA-EMS data architecture and forecasting pipeline (LSTM with gradient descent). Deployed AI Neural Networks-based trading decision support reducing forecast error and enabling 10+ GWh/month market bidding strategies with 40% faster decision cycles.
- Founded innovation hub launching 3 R&D initiatives: digital asset data platform, ML energy forecasting, market trading optimization.

KTH Royal Institute of Technology 2026
Researcher, Decisions & Control Systems Department

- Designed game-theoretic optimization frameworks (GNE/mpVI) for coordination in active distribution grids. Developed open-source solvers for fair resource allocation and decision-making across decentralized energy communities within Prof. Giuseppe Belgioioso's group.

ENEL Green Power

2023

Regulatory & Institutional Affairs Intern

- Accelerated grid codes and storage integration policies for hybrid renewable systems, supporting regulatory strategy and system-level planning; co-authored corporate generation mix report and contributed to the first IEA LatAm Energy Outlook.

British Petroleum

2022-2023

EHS & Sustainability Intern

- Managed operational compliance for 50+ fuel retail sites. Developed solar PV integration feasibility studies achieving 30% grid electricity reduction per site.

EDUCATION

M.Sc. Dynamics and Control of Renewables-Based Power Systems · Triple Degree

École Centrale de Nantes (FR), Polytechnic University of Catalonia (ES), Politehnica University of Bucharest (RO) | Erasmus Mundus Master

Top 2% scholarship awardee.

Relevant Coursework: **power electronics, robust control, stability & optimization.**

- RTE (French Transmission System Operator) Collaboration for Unit-Commitment optimization coding (AMPL) in 100+ generation units in renewable-heavy dispatch scenarios. Delivered dispatch planning improvements supporting TSO operations.

B.Sc. Energy & Sustainable Development Engineering (GPA 9.6/10.0)

Monterrey Institute of Technology · Semester abroad: Tiangong University, China, School of Artificial Intelligence & Control Science.

Relevant Coursework: Large-scale energy projects, thermal and process engineering, industrial and corporate sustainability strategies, industrial business, financing & regulation.

- Independent research collaboration with Beijing Jiaotong University on HVDC systems, simulating commutation faults in PSCAD and training Neural Networks-based fault detection models.

Intensive Technical Programmes: Imperial College London & Tsinghua (Aug–Sept 2025, inverter-based resources, Beijing) · NTUA (Apr 2026, Hardware Validation | Intelligent and Secure Microgrids, Athens)