Javiera Paz Espinoza Morales

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EDUCATION

Boston University. M.S. in Mechanical Engineering, Specialization in Energy and Design. **May 2026**
Federico Santa María Technical University. Professional Degree in Mechanical Engineering **2019-2025**
Federico Santa María Technical University. B.S. in Mechanical Engineering **2019-2022**

Achievements: Recipient of the **Boston University Graduate Scholarship** (2025) and the **Banco Santander International Mobility Scholarship** (2022). Held leadership roles as **President** and **General Secretary** of the Mechanical Engineering Student Council, recognized for strong academic performance and teamwork.

Relevant Coursework and Grade: Computational Astronomy, Fundamentals of Computational Fluid Mechanics, Computational Fluid Dynamics, Energy Management, Heat Transfer, Applied Thermodynamics; currently enrolled in Finite Element Analysis (FEA), Production System Analysis, and Advanced Design.

SPECIALIZED SKILLS

Technical: Proficient in CAD design; experienced with Ansys Fluent, Python, IDA ICE, Inventor, MATLAB, and FEM.
Language: Spanish (Fluent); English (Advanced)

PROFESSIONAL EXPERIENCE

Applications Engineer – Bel-Ray Chile (2024–2025)
Analyzed mining equipment data to detect failures and optimize performance; delivered data-driven insights and supported automation of reporting systems.

Engineering Intern – Bel-Ray Chile (2024)
Automated data analysis for lubricant monitoring and developed predictive maintenance protocols.

Engineering Intern – CMPC Maule Plant (2023)
Created technical compliance documentation for industrial equipment, improving safety and operational standards.

RELEVANT ACADEMIC PROJECTS

Conducting a thesis on computational modeling of hydrogen–impurity mixtures under rapid compression to study heat transfer dynamics. Participated twice in the AES Energy Innovation Challenge—earning **3rd place in 2024** for optimizing battery cooling systems and proposing a **hydrogen fueling network** in 2023. Also developed a sustainable energy management plan for Umeå University's future campus in Sweden.

LEADERSHIP EXPERIENCE

Served as teaching and administrative assistant in Mechanical Engineering courses (2021–2024), supporting instruction in Autodesk Inventor, workshop technology, thermodynamics, and mathematics. Coordinated teaching teams, prepared evaluations, and organized academic materials. Actively contributed to departmental activities (DIFMEC) and student leadership as President of the Mechanical Engineering Student Council.