

RAMIRO VALDES JARA

✉ ramirovaldesjara@gmail.com | [🐙 ramirovaldesjara](https://github.com/ramirovaldesjara) | [🌐 ramiro-valdes](https://www.linkedin.com/in/ramiro-valdes) | [🔗 ramirovaldesjara.github.io](https://github.com/ramirovaldesjara.github.io)

ABOUT ME

Ph.D. student in Industrial & Systems Engineering at the University of Miami with interests in data science and machine learning for time series analysis and predictive modeling. Proficient in Python, PyTorch, and SQL, with experience developing end-to-end machine learning models and deep learning workflows.

EDUCATION

- Ph.D. in Industrial & Systems Engineering** - *University of Miami* **Aug 2024 – Present**
- Coursework focused on machine learning, deep learning, stochastic modeling, optimization, and data analytics.
 - **Achievements:** Frost Institute for Data Science and Computing (IDSC) Fellowship 2025-2026. GPA: 3.97/4.0
- B.S. in Mathematics and Computer Science** - *Universidad Carlos III de Madrid* **Sep 2020 – May 2024**
- Coursework focused on probability, calculus, algebra, programming, and data structures & algorithms.
 - **Achievements:** Community of Madrid Excellence Scholarship Award (2023). Top 15 %. GPA: 8.09/10.0.

EXPERIENCE

- Research Assistant** **Aug 2024 – Present**
University of Miami *Coral Gables, FL*
- Develop machine learning and generative modeling methods for time series analysis and signal processing.
 - Apply deep learning methods to real-world temporal data systems for data-driven modeling and prediction.
 - Mentor two M.S. students on machine learning and time series analysis research projects.
 - Serve as teaching assistant for courses in stochastic modeling and probability, leading office hours and reviews.

- Full-Stack Developer Intern** **Sep 2023 – Jun 2024**
Indexa Capital Group *Madrid, Spain*
- Developed and maintained backend applications for a financial web platform using Python, PHP and JavaScript.
 - Built a Mixed Integer Programming (MIP) optimization framework for automated asset liquidation.
 - Developed SQL queries and database workflows for structured financial data management and reporting.
 - Integrated third-party banking APIs and automated financial data processing workflows.

SELECTED PROJECTS

- Diffusion Model for Probabilistic Time Series Reconstruction** | *Python, PyTorch, NumPy, Git* **Jan 2026**
- Developed a conditional diffusion framework for probabilistic reconstruction of missing values in time series data, achieving state-of-the-art performance; work in preparation for submission to AAAI 2026.
- Image Classification with Deep Convolutional Neural Network** | *Python, PyTorch, torchvision, NumPy, Git* **Oct 2025**
- Implemented a ResNet-based convolutional neural network on a dataset of 60K images for image classification, leveraging data augmentation and optimization techniques to improve generalization, achieving 92% accuracy.
- Madrid Metro Network Analysis** | *Python, NetworkX, Numpy, Matplotlib, Git* **Dec 2024**
- Analyzed the resilience and efficiency of the Madrid Metro network using graph theory and robustness simulations to identify critical nodes and structural vulnerabilities.

TALKS

- INFORMS Annual Meeting** **Oct 2025**
DT-MTSI: Conditional Diffusion Transformer for Probabilistic Multivariate Time Series Imputation *Atlanta, GA*

PUBLICATIONS

- Geometry-Free Conditional Diffusion Modeling for Solving the Inverse Electrocardiography Problem**
R. Valdes Jara, A. Meyers. Under review at the IEEE Engineering in Medicine and Biology Society Conference 2026.
- CTD-MTSI: CNN-Transformer Diffusion for Probabilistic Multivariate Time Series Imputation**
R. Valdes Jara, A. Meyers. Under review at the ICLR 2026 Time Series in the Age of Large Models (TSALM) Workshop.

SKILLS

- Programming:** Proficient with Python and SQL. Experience with R, PHP, JavaScript and C++.
- Machine Learning:** Experienced with machine learning frameworks including PyTorch, TensorFlow, and scikit-learn.
- Data Analysis:** Skilled in data analysis and visualization using NumPy, Pandas, and Matplotlib.
- Development Workflows:** Experienced with Git for version control and Jira for agile workflow management.
- Languages:** Spanish (Native), English (Fluent), and French (Advanced)