RAMIRO VALDES JARA

✉ ramirovaldesjara@gmail.com | ⌱ ramirovaldesjara | ⊡ ramiro-valdes | ⚲ ramirovaldesjara.github.io

EDUCATION

University of Miami — Aug 2024 – Present
Ph.D. in Industrial Engineering, GPA: 3.95 /4.0 — Miami, FL, USA
- Relevant Coursework: Computer Vision | Neural Networks | Reinforcement Learning | Machine Learning | Stochastic Processes | Network Science | Advanced Linear Programming

Universidad Carlos III de Madrid — Sep 2020 – May 2024
B.Sc. in Applied Mathematics and Computer Science, GPA: 8.08/10.0 — Madrid, Spain

PROFESSIONAL EXPERIENCE

Doctoral Researcher — Aug 2024 – Present
University of Miami. Advised by Dr. Adam Meyers. — Miami, FL, USA
- My research centers on time series and signal processing, with a special focus on diffusion models for imputation, forecasting and solving inverse problems.
- Supervise two Master's students on research projects in machine learning and time series analysis.

Teaching Assistant — Sep 2024 – Present
University of Miami — Miami, FL, USA
- ISE 442 Stochastic Modeling (2025 & 2026), ISE 310 Probability (2025), ISE 381 Financial Engineering (2026)
- Conduct office hours and reviews to help and support students in the course.

Full-Stack Developer — Sep 2023 – Jun 2024
Indexa Capital — Madrid, Spain
- Developed and optimized web applications using PHP, Python and JavaScript.
- Implemented a Mixed Integer Programming (MIP) algorithm to optimize asset liquidation strategies.
- Integrated third-party APIs to streamline financial data processing and automate workflows.

PROJECTS

Crypto Price Forecasting & Trend Classification | *Python, PyTorch, XGBoost, Matplotlib, NumPy, Git* — Nov 2025
- Collected and processed over 1M minute-level ETH/USDT price observations, including cleaning, normalization and feature engineering.
- Built and trained transformer-based sequence models and gradient-boosted trees (XGBoost).
- Evaluated models using MAE/RMSE for prediction and Accuracy/F1/AUC for classification.

Image Classification with ResNet CNN | *Python, PyTorch, torchvision, NumPy, Git* — Oct 2025
- Implemented a ResNet-3 style CNN in PyTorch and trained it on the CIFAR-10 dataset (60,000 images).
- Achieved 92% classification accuracy and documented model architecture and results in a LaTeX report.

PRESENTATIONS

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

PUBLICATIONS

R. Valdes Jara, A. Meyers. Geometry-Free Conditional Diffusion Modeling for Solving the Inverse Electrocardiography Problem. Under review

M. Delgado-Lelievre, **R. Valdes Jara**, A. Meyers, M. Akcin, J. Goldberger. Pulse Pressure and Blood Pressure–Heart Rate Coupling Across Hypertension Phenotypes: Influence of Beta-Blocker Therapy. Under review

SKILLS

Languages: Python, SQL, R, PHP, Javascript
Technologies: PyTorch, NumPy, scikit-learn, Matplotlib, NetworkX, Gurobi
Tools: Git, PyCharm, Jupyter, RStudio, LaTeX
Languages: English (fluent), Spanish (native), French (advanced), Chinese (elementary)