Marcelo Lares | Currículum Vitae

Villa Carlos Paz – Córdoba – Argentina

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Senior Data Scientist and Machine Learning Engineer with 20+ years of experience in research, academia, and industry. PhD in Astronomy with expertise in recommendation systems, experimentation, statistical learning, scientific computing, and large-scale data analysis. Author of 30+ peer-reviewed publications and mentor of graduate students.

Experience

- Senior machine learning engineer, Mercadolibre (2024-2026)
- Data Science Lead, IThreex Global (2023)
- Sr. Data scientist, IThreex Global (2022)
- Associated Professor, Universidad Nacional de Córdoba (2023-)
- Adjoint Professor, Universidad Nacional de Córdoba (2016-2023)
- Assistant Professor, Universidad Nacional de Córdoba (2005-2015)
- Teaching Assistant, Universidad Nacional de Córdoba (2001-2003)
- Independent Researcher, CONICET (2022-2023, granted on leave)
- Adjoint Researcher, CONICET (2016-2022)
- Assistant Researcher, CONICET (2012-2016)
- Posdoc Researcher, CONICET (2009-2011)
- Doctoral Scholar, CONICET (2004-2009)

Roles in industry

- **Mercadolibre**
  Senior DS machine learning engineer, Argentina *2024-2026*
  - Developed and operated production-scale recommendation systems for a major e-commerce marketplace, improving relevance and customer engagement across millions of recommendations per day. Specifically, worked on a ranking model with custom business rules and flexibility to adapt to several clients.
  - Designed recommendation strategies using heterogeneous features, including fashion-specific attributes, logistics and delivery signals, collaborative interactions, and embedding-based representations.
  - Implemented feature engineering pipelines and maintained multiple recommendation models across retrieval and ranking stages.
  - Led model evaluation and optimization through rigorous A/B testing, statistical experimentation and performance analysis.
  - Leveraged MLflow for experiment tracking, model comparison, and reproducible ML workflows.
  - Owned science-side deployment and rollout processes, ensuring reliable production releases and monitoring.
  - Partnered with engineering, product, and analytics teams to deliver high-impact ML solutions in a fast-paced environment.
  - Promoted a culture of ownership, rapid iteration, and data-driven decision making.
  - Followed model design, evaluation and deployment from statistical modeling and hypothesis testing to productive AB experiments
- **IThreex Global**
  Lead Data scientist, Argentina *2022-2024*

- Led data science projects across agriculture, finance, retail and tourism.
- Built computer vision models for livestock weight estimation.
- Developed customer segmentation and churn models used by retail customers to improve loyalty and sales performance.
- Implemented a RAG-based support system.
- Created internal Python libraries for accelerating model deployment.

- **National University of Córdoba (UNC)**
  Professor, Argentina *2005–today*
  - Taught courses on statistics, machine learning, numerical methods, and simulations.
  - Led the Astrostatistics course for six years.
  - Delivered industry talks and outreach activities on data visualization and storytelling.
  - Collaborated with multidisciplinary teams on COVID-19 decision-support projects.
  - Currently head of the Data Science course on the Applied Mathematics department.
- **CONICET**
  Researcher *2004–2022*
  - Applied statistical learning, Bayesian inference, and HPC techniques to large astronomical datasets.
  - Published 30+ Q1 papers and developed open-source scientific software.
  - Contributed to gravitational-wave counterpart detection and automated pipelines for transient events.
  - Conducted research on machine learning applications for astronomical object classification.

Education

- PhD in Astronomy, Universidad Nacional de Córdoba (2009). Dissertation focused on statistical analysis of large-scale astronomical datasets.

Publications

- 30 articles published in international Qi journals with relevant contributions. Also published tens of articles in proceedings and software repositories.
- In my research activity, I have applied Bayesian inference, statistical learning and HPC techniques to large astronomical datasets, developed open-source scientific software and participated in large international collaborations.
- As a researcher, I have published 10 open source software projects, along with more public repositories with the code of research projects and teaching activity.
- h-index 17 and g-index 36 (only referred, international Q1 journals)

Google Scholar | ORCID | GitHub

Mentoring

Advisor of two PhD theses and a graduate program student.

Evaluation

Reviewer for *Monthly Notices of the Royal Astronomical Society* and *Astronomy and Astrophysics*

Service

Technical editor of the National Astronomical Association Bulletin (2011-2017) Technical editor of the third stellar Astrophysics Meeting (2017) Member of the Local Organizing Committees: Friends of Friends Meeting (2018), SATEC Meeting (2021)

Teaching

20 years of teaching experience at university level. I have been the head of courses like Computation, Astrostatistics and Data Science, and part of the teaching staff on mathematics, physics, models and simulation, introduction to statistics and several astronomy courses.

Grants

Member of 19 research grants

Outreach

Acted as a Speaker, Organizer, Developer, Editor and visitor guide and participated in multiple outreach activities during 2003 and 2023. Head of the "House of extension" for two years. Also invited for 14 interviews in radio, TV and blogs. Member of the multidisciplinary group Arcovid19, aimed at designing tools for decision support in the context of the SARS-COVID 19 pandemic. The team also worked on public outreach and participated on several seminars and meetings about the topic. I participated in several collaborations with the industry, including two "high level technological services" certificated by the outreach office of the CONICET.

Meetings

Participated in international meetings (5 Schools, 5 Workshops, 3 regional Meetings) and 20 national meetings.

Skills

- **Languages**: Python, SQL, R, perl, bash, latex
- **Machine Learning**: PyTorch, Scikit-Learn, XGBoost
- **Recommender Systems**: Feature engineering, embeddings, ranking, A/B testing, statistical experimentation
- **Generative AI**: RAG, prompt engineering, Codex, Claude Code
- **Data**: NumPy, Pandas, SciPy, BigQuery
- **Software Engineering**: Git, GitHub, Linux
- **Cloud**: AWS, GCP
- **Productivity**: Jira, Slack
- More details on my LinkedIn profile.

Additional information

Several resources about my achievements and production can be found in my personal website,

www.mlares.space