Athos Petri Damiani

Senior Data Scientist | Applied Machine Learning | Credit Risk

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Profile

Senior data scientist and statistician with 13+ years building credit-risk models, fraud detection systems, and data products across finance, energy, and regulatory sectors. Combines statistical modeling and production ML engineering with R, Python, Scala, Spark, Databricks, and Shiny. Has led data science and ML engineering integration, built models and monitoring for products serving millions of customers, and authored open-source R tools for machine learning.

Education

M.Sc. studies, Polytechnic School, University of São Paulo 2019–2022
Studies not completed. Research project: automatic acoustic detection of bird species from birdsong. Built a deep-learning model using PyTorch; work covered machine learning, statistics, neural networks, and audio. Project website

B.Sc. in Statistics, Institute of Mathematics and Statistics, University of São Paulo 2009–2013

Technical Skills

Languages and data: R, Python, SQL, Scala
Machine learning and AI: statistical modeling, credit-risk modeling, fraud detection, text mining, neural networks, PyTorch, Torch (R), AI, RAG, MLOps, end-to-end ML lifecycle
Platforms and tools: Shiny, Spark, PySpark, Databricks, MLflow, Git, Docker
Additional: JavaScript, HTML, CSS, Bash, C++

Experience

Senior R/Shiny Developer **Aug 2025–Present**
Halo | Technology consultancy *São Paulo / Remote*

- Built an enterprise R/Shiny clinical dashboard for a pharmaceutical client, reducing data exploration time by 50%. Designed two interactive dashboards that translate analytical workflows into compliance-ready tools for research teams.
- Work with cross-functional stakeholders on application design, usability, scalability, and compliance requirements.
- *Tools:* R, Shiny, Git.

Machine Learning Specialist **Aug 2024–Nov 2025**
Serasa Experian | Credit bureau and financial services *Brazil*

- Led ML engineering integration for the credit-risk team, cutting model deployment time by 90%.
- Improved model reliability and production delivery cadence across two cross-functional squads using Python and Databricks, bridging data science and ML engineering workflows.
- *Tools:* Python, Databricks, SQL, Git.

Data Scientist **Feb 2023–Jul 2024**
Bank of England | Regulatory organisation *United Kingdom*

- Built a Shiny dashboard and data pipelines serving 5+ strategic business units; received an "Excelling" performance bonus.
- Applied version control, testing, and documentation practices to regulatory data products in a fully remote role.
- *Tools:* R, SQL, Git.

Senior Data Scientist, Lending **Oct 2021–Dec 2022**
Nubank | Digital banking *Brazil*

- Built and monitored Nubank Lending's primary credit-risk model, serving 7 million borrowers.
- Developed a model-monitoring framework in Python, Scala, and Spark on Databricks; collaborated with cross-functional squads in an 80M+ customer organization.
- *Tools:* R, Scala, Python, Spark, Databricks, Git.

Co-founder and Data Scientist **Feb 2017–Present**
R6 Statistical Consultant / Curso-R *Brazil*

- Co-founded Curso-R, delivering open-source courses and materials to 500+ students since 2019, and co-founded data-science consultancy R6.

- Delivered consulting projects across finance, health, and public sectors; produced 100% open-source course materials on R, web scraping, dashboards, machine learning, and data visualization.
- *Tools:* R, SQL, machine learning, web development, Git.

Specialist Data Scientist **Jan 2018–May 2019**
Itaú Unibanco | Financial services *Brazil*

- Built and deployed credit and collections scoring models supporting core banking operations; advised internal business units on credit-risk strategy and operational decisions.
- *Tools:* R, SAS, SQL, Hive, Git.

Specialist Data Scientist **Apr 2017–Dec 2017**
EDP | Energy *Brazil*

- Created EDP's first customer default score, generating significant ROI for the energy company's credit operations.
- *Tools:* R, SQL, machine learning.

Statistical Modeler **Aug 2015–Mar 2017**
ClearSale | Fraud prevention *Brazil*

- Developed predictive models for e-commerce fraud prevention using machine learning, text mining, and web scraping.
- *Tools:* R, SQL, machine learning.

Analyst, Legal Department **Nov 2014–Aug 2015**
Itaú Unibanco | Financial services *Brazil*

Built a model to support settlement-offer values in labor lawsuits; coordinated project work between technical staff and legal stakeholders.

Junior Data Analyst **Jun 2014–Nov 2014**
IBOPE | Market research *Brazil*

Worked on experimental design, forecasting, multivariate analysis, descriptive statistics, and process automation.

Data Scientist **Jan 2013–May 2014**
Brazilian Association of Jurimetrics *Brazil*

Contributed across empirical research, survey design, statistical analysis, relational databases, reporting, web applications, and data collection.

Statistical Consulting Intern **Jul 2011–Dec 2012**
Center of Applied Statistics, IME-USP *Brazil*

Conducted statistical consulting projects and data preparation in R and Excel; coordinated a project for the University of São Paulo Rectorate.

Publications

- ABJ & CNJ (2015). *Time of the processes related to adoption in Brazil: An analysis of the impacts of the judiciary.* In Portuguese. Report.
- ABJ (2014). *The value of the cause and the value granted by moral damages in Special Civil Courts.* In Portuguese. Article.

Certifications and Languages

Selected training: Stanford Statistical Learning; Bayesian Methods for Machine Learning (with Honors); Deep Learning Specialization courses in neural networks, CNNs, optimization, and NLP.
Languages: Portuguese (native); English (IELTS C1 level).

Selected Open-Source Contributions

- treesnip: LightGBM and CatBoost integration for tidymodels.
- torchaudio: authored R translation of PyTorch torchaudio functionality for R torch.
- facenet: face-recognition implementation using Torch.
- wavesurfer: R interface to wavesurfer.js; wikiaves: interface to the WikiAves API.
- Contributed XGBoost-to-SQL translation to tidypredict, a weight-of-evidence recipe step to embed, and a dataset to torchdatasets.