Matheus Camilo da Silva

I am a final-year PhD candidate in Data Science at the University of Trieste, Italy, specializing in AutoML for clustering, with a strong focus on explainability, meta-learning, and optimization. Alongside my academic pursuits, I have accumulated extensive experience as a Machine Learning Engineer, delivering impactful solutions in industries ranging from finance and pharmaceuticals to technology and music. My work combines advanced research and practical application, enabling me to design and deploy innovative machine learning systems that solve complex, real-world challenges.

Education and Publications

2022 - 2025
PhD in Data Science
University of Trieste

2018 - 2020
Master's in Applied Informatics
Pontifical Catholic University of Paraná

2012 - 2017
Bachelor's in Computer Science
State University of Londrina

Decision Predicate Graphs for Explainable Data Augmentation in Imbalanced Learning
currently under review at ECAI 2025.

TPOT-Clustering
International Joint Conference on Neural Networks (IJCNN 2025).

Problem-oriented AutoML in Clustering
currently under review at Springer's Machine Learning Journal, 2025.

Benchmarking AutoML Clustering Frameworks
AutoML Conference 2024.

Using process mining to reduce fraud in digital onboarding
FinTech Journal, 2023.

A developer recommendation method based on code quality
International Joint Conference on Neural Networks (IJCNN 2020).

Work Experience

Machine Learning Engineer @ Bari Bank

Jul 2023
Jan 2021

As a Machine Learning Engineer at Banco Bari, Brazil's leading home equity digital bank, I led data-driven projects across teams, developing solutions such as NLP-based automated reports to analyze chatbot feedback and process mining techniques to reduce identity fraud during onboarding. I improved the bank's default risk model with new metrics for better risk assessment and configured AWS services like S3 triggers and Lambda functions for real-time ETL processes. Using Apache Airflow and PySpark, I managed large-scale data pipelines and integrated supplier solutions into the company's data lake, providing access through Athena, MySQL views, and FastAPI endpoints while overseeing collaborator access with Terraform.

Software Engineer @ LaMusic

Jan 2021
Mar 2020
As a Software Engineer at La Music, a startup in the music industry, I developed REST APIs using Node.js and Express to support core business operations. Additionally, I built a web scraper application to recover royalties retained by the Brazilian music copyright regulatory agency, streamlining revenue retrieval processes. I configured and maintained the Cloud Firebase environment, managing file storage in Cloud Storage and data handling in the Firebase Realtime Database. Furthermore, I developed a regression model to evaluate the financial value of artists' authorial portfolios, aiding the company in assessing potential rights acquisitions.

Research Intern @ Siemens

Mar 2020
Mar 2018
As a Research Intern at Siemens, I developed a recommendation system to streamline the assignment of change requests to software developers. This system utilized issue text analysis and historical developer performance data to ensure efficient task allocation based on expertise. Additionally, I created a management web application using React to calculate and report code quality metrics for software developers across various projects. These tools enhanced project management by providing actionable insights into team performance and supporting data-driven decision-making.

Achievements

Awarded with the University of Trieste M/2 International PhD Scholarship (2022)

Awarded with a scholarship from the Siemens and PUCPR Master's Program (2018)

Certificate of proficiency in English: Toefl - C1 (02/2017)

Autorizzo il trattamento dei dati personali contenuti nel mio curriculum vitae ai sensi dell' art. 13 D.Lgs. 196/2003 e del regolamento UE 2016/679.

Trieste, 10/07/2025