

ANGELO PELISSON

Senior Data Scientist | AI/ML Research Engineer | Machine Learning Engineer

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PROFESSIONAL SUMMARY

Senior Data Scientist with 5+ years of experience building production ML systems across oil & gas, finance, and automotive, including time series forecasting, predictive maintenance, and anomaly detection. Delivered systems tied to \$1M+ in client savings and enterprise account wins, with hands-on MLOps delivery on Azure, Databricks, and AWS. M.Sc. in Engineering, two peer-reviewed publications, and international research experience.

EXPERIENCE

Senior AI/ML Research Engineer — Shape Digital

Jul 2025 – Present

Rio de Janeiro, Brazil (Remote)

- Led technical ownership of a **Fuzzy BowTie** inference system for offshore process safety and risk assessment, delivered with an energy operator and research university; reached first production milestone with stakeholder approval and is now being scaled using historical failure data, work orders, and asset hierarchies.
- Designed a tag-clustering algorithm based on business rules that reduced the complexity of fragmented industrial datasets by **~90%**, unlocking previously unusable data for model training; led data analysis end-to-end including tag location inference.
- Built an **Accelerated Deployment Framework** that cut deployment time from 3 days for 2 models to 1 day for 26 models, improving throughput by **~13×** and supporting a strategic enterprise contract signing.
- Designed and built a modular **QA Library** in Python supporting unit and integration testing across dev/prod environments, adopted team-wide and integrated into the lifecycle of 100+ production models; led the initiative with 2 supporting data scientists implementing unit tests.
- Built a scalable **automated backtesting framework** supporting 100+ models at client-defined frequency, cutting model validation cycle from 7 days to 30 minutes (**~96%** reduction).
- Authored the team-wide internal **development & deployment guidebook**, standardizing QA and deploy processes and restructuring the model catalog (updated 50+ legacy entries).

Senior Data Scientist — Shape Digital

Jul 2024 – Jul 2025

Rio de Janeiro, Brazil (Remote)

- Led a **corrosion-detection computer vision PoC** on offshore spindle installations using **DeepLab semantic segmentation** with data augmentation and patching on 360° camera imagery (1,500 labeled images via LabelMe), achieving **~70% F1/IoU** and establishing the foundation for production rollout.
- Built **anomaly-detection pipelines** for offshore sensor data (drift detection); the early identification of an asset failure was instrumental in a key client renewing a 1-year contract.
- Delivered **predictive-maintenance models** for industrial spindle telemetry across 30+ assets and 4 clients, enabling early failure detection and reducing unplanned downtime.
- Developed a **knowledge-based sensor-comparison model** with adaptive normalization to detect faults across redundant and analog sensors at vessel scale (1,000+ sensors per asset).
- Owned the full ML lifecycle on the company's **proprietary ML platform** for two major oil & gas clients — versioning, deployment, monitoring, and engineering-feedback-driven adjustments.

Data Scientist — Keyrus

May 2022 – Jul 2024

São Paulo, Brazil

- Built a **probabilistic ML** model for underground gas network risk prediction across 20–30 daily site evaluations, generating **~\$55K** monthly savings (**~\$650K annualized**) and a **70%** productivity gain for field engineers.
- Developed a **billing-rule optimization model** that delivered **~\$165K USD in identified savings** for the client.
- Delivered a **People Analytics solution** that identified improper reimbursements, recovering **~\$15K USD** and supporting data-driven HR decisions.
- Designed and implemented an **automated ML deployment** pipeline on Databricks, Azure ML, and h2o.ai for classification, regression, and anomaly detection, reducing time-to-production through low-code/no-code patterns.
- Drove data quality initiatives across Azure Data Factory, Synapse, and Azure Storage; coordinated delivery using Scrum across cross-functional teams.

Data Scientist — Grupo GCB

Sep 2021 – May 2022

São Paulo, Brazil

- Developed and monitored **credit-scoring and credit-loss prediction models** in production, supporting risk decisions for the company's credit operations.

- Designed and deployed an **end-to-end customer-prospecting model on AWS SageMaker** combining credit risk and behavioral scoring to support the expansion of the customer base.
- Built consistent databases and feature-engineering pipelines using Python, SQL, and object-oriented design patterns to enable reliable model retraining and monitoring.

Research Intern — CARISSMA — Technische Hochschule Ingolstadt

Oct 2020 – Mar 2021

Ingolstadt, Germany — DAAD scholarship

- Developed **Gaussian Process surrogate models** to replace computationally expensive Finite Element (FE) crash simulations, **reducing simulation runtime from 72 hours to 3 hours (24× speedup)** while maintaining low Mean Absolute Error against the ground-truth FE results.
- Co-authored a **peer-reviewed publication** (VDI, 2022) on metamodel robustness and predictive power for occupant safety considering human diversity.

EDUCATION

M.Sc., Electronic Systems Engineering — Universidade Federal de Santa Catarina (UFSC)

Joinville, Brazil · Feb 2019 – Jul 2021

MBA, Project Management — Universidade Tecnológica Federal do Paraná (UTFPR)

Brazil · Nov 2023 – Oct 2025

B.Sc., Electrical Engineering — Universidade Tecnológica Federal do Paraná (UTFPR)

Cornélio Procopio, Brazil · Mar 2013 – Aug 2018

TECHNICAL SKILLS

Python, SQL, machine learning, statistical analysis, MLOps, Azure ML, Databricks, AWS SageMaker, model monitoring, CI/CD, Git, ETL/data pipelines, PySpark, and communication/project collaboration.

Domains: Time-Series, Predictive Maintenance, Process Safety & Risk, Anomaly Detection, Credit Risk, Sensor Analytics, Computer Vision, Probabilistic Modeling

PUBLICATIONS

- Plaschkies, F., Vaculin, O., Pelisson, A. (2022). *"Rapid Estimation of Occupant Crash Behavior Considering Human Diversity: Robustness, Data Intensity and Predictive Power of Metamodels."* VDI, pp. 313–326. doi.org/10.51202/9783181023877-313
- Pelisson, A., Covoos, T., Spengler, A., Jaskowiak, P. (2020). *"Comparative Study of Photovoltaic Power Forecasting Methods."* ENIAC, pp. 555–566. doi.org/10.5753/eniac.2020.12159

LANGUAGES

Portuguese (Native) · **English** (C1 – Professional Working Proficiency) · **German** (A2 – Elementary) · **Spanish** (A2 – Elementary)