

Wanderson Gomes de Souza

Data Scientist

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PROFILE

Senior Data Scientist with a Ph.D. in Mechanical Engineering and an M.Sc./B.Sc. in Computer Science. Proven track record delivering end-to-end AI systems with focus on computer vision for face recognition, liveness detection, and object detection. Expertise in statistical modeling, supervised and unsupervised learning, and algorithm optimization for resource-constrained environments. Skilled in building production-grade MLOps pipelines, containerization, and cloud deployment. Combines technical depth with business acumen to transform data into actionable insights and scalable ML solutions.

PROFESSIONAL EXPERIENCE

Technical Lead / AI Specialist

07/2025 – Present

Motiva

- Leads AI initiatives with cross-functional teams, defining architecture, strategy and technical direction to integrate AI into business workflows.
- Designed a scalable Azure-based LLM platform that consolidated three independent initiatives into a shared ecosystem, reducing duplicated effort, standardizing CI/CD usage, and enabling reusable orchestration, storage and databases.
- Develops data pipelines using Python and cloud services (Azure), enabling secure, retrievable and traceable document processing with SQL-based analytics.
- Works closely with business units to transform needs into viable architectures, assessing technical feasibility, cost implications and measurable impact before implementation.

Senior / Machine Learning Engineer

04/2024 – 07/2025

Venturus

- Led end-to-end computer vision initiatives, from model architecture design to deployment on edge devices.
- Developed IR-based face recognition models achieving up to 97% accuracy in controlled environments, with strong generalization to challenging conditions.
- Converted and optimized a unified detection model (body, pet, doll, face) for deployment on low-power embedded devices.
- Created liveness detection solutions aligned with iBeta level 1 certification standards.

Senior / Machine Learning Engineer

04/2023 – 04/2024

iTriad

- Designed and integrated machine learning system lifecycles using state-of-the-art technologies.
- Developed and implemented continuous pipelines for training, testing, and validating deep learning models.
- Optimized models using advanced techniques such as pruning, quantization, knowledge distillation, and data augmentation.
- Converted complex model architectures for efficient deployment on embedded devices and cloud environments using containerization (Docker)

Data Scientist

01/2021 – 04/2023

NeoPTO

- Developed NLP solutions for automatic document classification and chat intent detection, using deep learning, embeddings, and multilabel modeling.

- Built distributed data processing pipelines with PySpark for large-scale patent and conversational datasets across heterogeneous data sources.
- Implemented and integrated database architectures (MongoDB + indexed storage) to support scalable text retrieval, labeling, training pipelines and experimentation.
- Contributed to production lifecycle practices, including data versioning, model evaluation, and performance monitoring in large-scale deployments.

EDUCATION

PhD, Mechanical Engineer Federal University of Paraiba (UFPB)	09/2019
MSc in Computer Science Federal University of Paraiba (UFPB)	01/2014
BSc in Computer Science State University of Paraiba (UEPB)	12/2009

CERTIFICATIONS AND ADDITIONAL COURSES

Build Generative Adversarial Networks Coursera	2023
NATURAL LANGUAGE PROCESSING WITH CLASSIFICATION AND VECTOR SPACES Coursera	2020
Math for Machine Learning Amazon	2020
SCRUM FUNDAMENTALS CERTIFIED (SFC™) SCRUMstudy	2020

SKILLS

- **Python & Data Engineering:** Production-grade ML development using Python (NumPy, Pandas, PyTorch, Scikit-learn, TensorFlow, FastAPI) with experience in PySpark and advanced SQL for analytical queries and large-scale data processing.
- **Computer Vision & Statistical Modeling:** Expertise in YOLOvX architectures, model training and optimization using Ultralytics, face recognition and object detection. Strong foundation in supervised learning (Random Forest, GradientBoost, Logistic Regression), unsupervised methods, clustering, classification and regression.
- **Statistical Analysis & Optimization:** Proficient in statistical hypothesis testing, genetic algorithms, algorithm complexity analysis and code optimization for performance-critical applications.
- **Model Deployment & Optimization:** Expert in ONNX and TensorRT for model conversion and inference acceleration, quantization, pruning, and deployment on edge devices and cloud environments (AWS, Azure).
- **MLOps & Cloud Infrastructure:** Hands-on experience with MLflow for experiment tracking, model versioning, drift detection and performance monitoring. Deployment of ML workloads with Docker and Kubernetes using CI/CD pipelines.
- **Communication & Collaboration:** Strong presentation skills for explaining model performance and project results to stakeholders. Experienced with Scrum and Kanban methodologies, combining technical depth with business-oriented thinking.

LANGUAGES

English ● ● ● ● ● French ● ● ● ● ●