

Jesimon Barreto

Machine Learning Engineer | Machine Learning Consultant | Computer Vision Researcher

Belo Horizonte, Brazil

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English: Advanced professional and technical communication

SUMMARY

Machine Learning Engineer with more than nine years of experience developing, deploying, and maintaining machine learning systems in production environments. Specialized in decision systems, pricing optimization, and large-scale marketplace data pipelines operating on millions of transactions across dozens of cities in Brazil. Strong experience connecting machine learning modeling, software engineering, and business strategy, ensuring that model improvements translate into measurable impact in production systems. Experienced in cross-functional collaboration with engineering, data science, and business teams to design reliable decision systems that directly impact revenue metrics. Research background in self-supervised learning and visual foundation models, with industrial patents developed during employment at Samsung and peer-reviewed publications presented at top-tier international venues.

EXPERIENCE

Machine Learning Engineer — iFood

Led development and deployment of demand-based restaurant pricing models operating at national scale. These systems process millions of transactional records and directly influence delivery fee and marketplace pricing decisions across Brazil. Responsibilities included production deployment, monitoring, statistical validation of business impact, incident resolution in production environments, and active participation in architectural discussions for decision systems. Defined technical task planning for pricing initiatives and collaborated directly with business stakeholders to align pricing strategies with machine learning solutions. Achieved approximately tenfold reduction in MAE after redesigning the modeling approach and improving feature engineering pipelines.

Machine Learning Researcher — Samsung

Conducted research and development of computer vision and video understanding systems using deep learning architectures. Contributions resulted in multiple international patents related to video recognition and behavior understanding systems developed during employment at Samsung.

Machine Learning Consultant

Provided consulting services in machine learning system design, statistical modeling, production deployment pipelines, and applied ML strategy for business-critical decision systems. Supported teams in connecting predictive performance with operational and financial metrics.

PATENTS — Samsung

Patents developed during employment as Machine Learning Researcher at Samsung:

- Method for video recognition capable of encoding contextual information (US)
- System for detecting food ingestion events using video (BR)
- Video behavior recognition system using deep learning (US)

- Intelligent video monitoring system using neural networks (BR)

PUBLICATIONS

- VESSA — Video-based objEct-centric Self-Supervised Adaptation for Visual Foundation Models — NeurIPS (2025)
- Human Activity Recognition based on Smartphone Sensors — Neurocomputing (2020)
- Multiscale DCNN Ensemble Applied to Human Activity Recognition — EUSIPCO (2018)

TECHNICAL SKILLS

Machine Learning: Deep Learning, Decision Systems, Pricing Models, Statistical Modeling, Experiment Design

Frameworks: PyTorch, TensorFlow, Keras, Scikit-learn, SciPy

Data Systems: PySpark, Databricks, SQL, MongoDB, Parquet pipelines

MLOps: Airflow, MLflow, Weights & Biases, CI/CD, Feature Store concepts

Cloud: AWS (SageMaker, S3, EC2), Google Cloud

Systems: FastAPI, Docker, pytest

Programming: Python, C/C++, Java, Assembly

Additional: LLM workflows and prompt engineering for production systems

EDUCATION

MSc in Computer Science (Machine Learning and Computer Vision)

Federal University of Minas Gerais (UFMG)

Research focus on vision foundation models, self-supervised learning, and video-based representation learning.