

LUCAS SILVA COUTO

Machine Learning Engineer | Computer Vision

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PROFESSIONAL SUMMARY

Machine Learning Engineer specialized in Computer Vision, with a track record of taking deep learning models from training to production. Trained 9 deep learning models (CNNs and Vision Transformers), 3 of them deployed to production, including deepfake detection at 90% accuracy; currently building instance segmentation systems for drone-based livestock monitoring at a deeptech company. M.Sc. candidate in Computer Science (UEM) with 2 peer-reviewed publications at ICEIS. Leadership background as CTO and AI Lead, running engineering teams from strategy to delivery, with MLOps on AWS and OCI.

PROFESSIONAL EXPERIENCE

Kasco AI — Machine Learning Engineer May 2026 – Present

AI deeptech for Energy, Agribusiness, and Industry (Unicamp spin-off) · Remote

- Develop CNN-based detection and instance segmentation models (PyTorch) for automated cattle counting from drone imagery, applied to large-scale livestock operations.
- Work on an asynchronous video-processing pipeline with Kafka (OCI Streaming) for scalable inference over drone footage.
- Implement geospatial data processing (UTM projection, polygon-based area mapping) for property registration and flight planning.
- Build features for the field-operations web platform (Next.js, NestJS).

Ecossistema 300 Franchising — AI Lead Nov 2025 – Apr 2026

Franchising group with 170+ employees

- Led the AI department with a team of 4 engineers: demand planning, project tracking, code review, and technical mentoring.
- Deployed 2 on-premise LLMs in parallel (32 GB VRAM) for an internal chatbot and corporate message analysis, ensuring data privacy.
- Shipped 3 software and AI products to production (5 validated in POC), from technical design to operations.
- Contributed to strategic planning with executive leadership, translating business vision into a technical roadmap.

Lumus Tech — CTO Aug 2024 – Present

Digital identity verification startup (idtech)

- Architected an end-to-end SaaS identity verification platform — facial biometrics, document validation, liveness detection, and deepfake detection — from the multi-tenant backend to model serving in production.
- Trained 9 deep learning models (CNNs and Vision Transformers) on a proprietary dataset of 1 million images (~200 GB), achieving 90% deepfake-detection accuracy; 3 models in production.
- Built the MLOps infrastructure on AWS: training, versioning, inference, and continuous model monitoring.
- Represented the company at Web Summit Rio 2025.

EDUCATION

M.Sc. in Computer Science — State University of Maringá (UEM), Brazil Mar 2025 – Present

Research area: Computational Intelligence (Computer Vision and Recommender Systems)

B.Eng. in Production Engineering (Software emphasis) — UEM, Brazil Mar 2019 – May 2024

PUBLICATIONS

An Empirical Comparison of CNN and ViT Features for Visually-Aware Fashion Recommendation. DOI: [10.5220/0014910900004018](https://doi.org/10.5220/0014910900004018).
Recommending Points of Interest with a Context-Aware Dual Recurrent Neural Network. DOI: [10.5220/0013230000003929](https://doi.org/10.5220/0013230000003929).

TECHNICAL SKILLS

Machine Learning & Computer Vision: PyTorch, TensorFlow, CNNs (ResNet, ConvNeXt), Vision Transformers (ViT, CLIP, DINOv2), object detection, instance segmentation, recommender systems, statistical model evaluation

LLMs & Generative AI: RAG, multi-agent systems, on-premise LLM deployment, embeddings, vector databases, prompt engineering

MLOps & Infrastructure: AWS, OCI, Docker, Kafka / OCI Streaming, Terraform, CI/CD, model versioning and monitoring, Linux

Software Engineering: Python, TypeScript, JavaScript, SQL, Node.js, NestJS, Next.js, React, PostgreSQL, Redis, REST APIs, microservices, event-driven architecture

Languages: Portuguese native • English B2 (upper-intermediate) • Spanish basic