

Pol Casacuberta

ML ENGINEER & TEAM LEAD

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English (C1) | Spanish (native) | Catalan (native)



Summary

ML Engineer and Team Lead with a Computer Science degree from FIB — UPC and production experience across computer vision, GenAI / RAG, and cloud data platforms. Led Deloitte's first Physical AI project and delivered systems from real-time edge inference and video pipelines to cloud training and model serving across AWS, Azure, and GCP.

Education

Universitat Politècnica de Catalunya — Facultat d'Informàtica de Barcelona (FIB)

B.SC. IN COMPUTER SCIENCE AND ENGINEERING

Barcelona, Spain

Mar 2019 – Jul 2023

- Cambridge English C1 Advanced certificate (2019).

Skills

AI & ML	Machine Learning, PyTorch, scikit-learn, MLOps, Statistics
Computer Vision & GenAI	Computer Vision, OpenCV, Object Detection, LLMs, RAG, Vector Search, LangChain
Physical AI & NVIDIA Stack	NVIDIA Omniverse, Isaac Sim, DeepStream, TAO Toolkit, Triton Inference Server
Cloud & Data Platforms	AWS, Azure, GCP, Docker, Kubernetes, GitHub Actions, PostgreSQL, FastAPI, Informatica
Programming Languages	Python, TypeScript, JavaScript, C, C++, Java, SQL
Languages	English (C1), Spanish (native), Catalan (native)

Experience

Deloitte

Barcelona, Catalonia, Spain

AI & ML ENGINEER / TEAM LEAD

Sep 2024 – Present

- Led a 6-person team across architecture, planning, mentoring, and client delivery for Deloitte's first Physical AI project at HORSE Powertrain: real-time production-line anomaly detection and a camera-tracked warehouse digital twin using NVIDIA Omniverse, Isaac Sim, and Metropolis (DeepStream, TAO, Triton).
- Built, in a 10-person team, a production AI talent-matching platform for Gobierno de Aragón that indexed 10,000 resumes; transformed each PDF into structured JSON and searchable RAG vectors in under 20 seconds for semantic candidate-job matching.
- Designed and deployed AI and data infrastructure across AWS, Azure, and GCP — edge inference, streaming pipelines, and cloud-hosted training and model serving.

MGS, Seguros y Reaseguros S.A.

Barcelona, Catalonia, Spain

AI ENGINEER

Sep 2023 – Sep 2024

- Built pricing prediction models as part of a 4-person AI and data team supporting insurance product analytics.
- Automated SQL Server workflows with PowerShell to streamline recurring data processing and reporting tasks.
- Developed geospatial analysis projects in R / RStudio, using map data to support location-based business insights.

Selected Projects

Polyp Detection (Bachelor's Thesis, FIB-UPC, 2023) — Faster R-CNN / RetinaNet / SSD detectors on colonoscopy images, augmented with synthetic data from CycleGAN and SPADE; hyperparameter search with Optuna & Ray Tune.

polcasacubertagil.com — Astro portfolio with EN / ES / CA i18n, interactive in-browser ML demos, and a CI-driven LaTeX pipeline that rebuilds this CV in three languages on every push.

Draculin (bitsxlaMarató 2023 finalist) — Flutter + Django health-tracking app with an LLM chatbot and computer-vision image analysis.

Extracurricular Activity

Winner of #bitsxlaMarató TV3 Hackathon 2022

Barcelona, Spain

ML ENGINEER (HACKATHON)

Jan 2022

- Developed an aneurysm detector using MaskRCNN on a convolutional neural network to identify abdominal aortic aneurysms from ultrasound video.
- Won the #bitsxlaMarató TV3 Hackathon 2022 challenge for cardiovascular health.
- Designed and implemented a GUI for uploading ultrasound video, detecting the aorta, and rendering an interactive 3D model.