

Duarte Pereira da Cruz

Machine learning and computer vision · MSc Autonomous Systems, DTU · Copenhagen

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EXPERIENCE

Implement Consulting Group Junior AI consultant, part-time From Nov 2026 · Copenhagen

- Joining The Tech Collective, Implement's data and analytics unit, alongside the MSc.

Cloudflare Software engineering intern, Developer Infrastructure Jun – Aug 2026 · Lisbon

- Co-designed the off-cluster gRPC control plane (Go) for an internal fuzz-testing platform, with two-way Kubernetes reconciliation, a TypeScript provisioning shim on Durable Objects, and a GitLab CI component other teams use. 40+ merge requests in three months.
- Found and fixed a concurrency race in the OAuth token refresh of an AI-agent gateway used internally and by customers. A SQLite-backed single-flight leader election removed ~9,700 errors a week, 97% of its failures.
- Hardened platform APIs against race conditions and cross-tenant leaks, backed by 490+ unit tests.

JunctionX Lisbon 2026 Co-lead organiser, with Daniel Borges Jan – Oct 2026 · Lisbon

- Co-led an 8-person team to run a 24-hour AI hackathon for 150+ participants with €25,000+ in prizes; pitched sponsors and API partners, including NOS, Jane Street and ElevenLabs.

Instituto Superior Técnico Teaching assistant Feb – Apr 2026 · Lisbon

- Ran lab sessions for the Human-Computer Interaction course, a class of 24.

Nmbrs, Visma Group Tech intern Jul – Aug 2025 · Lisbon

- Turned the team's architecture conventions into Markdown and YAML rule sets that let LLMs generate complete Data, Core, IoC and API projects.
- Automated project scaffolding, cutting setup time by 87%.

EDUCATION

Technical University of Denmark MSc Autonomous Systems 2026 – 2028 · Copenhagen

Coursework: Perception for Autonomous Systems, Deep Learning, Deep Learning in Computer Vision, Robotics, Machine Learning Operations.

Instituto Superior Técnico, Lisbon BSc Computer Science and Engineering 2023 – 2026 · Lisbon

GPA 16/20. Academic Merit award, 2024/25. Grades: Machine Learning 20/20, Human-Computer Interaction 19/20, Probability and Statistics 18/20.

PROJECTS

live demos and write-ups at duartecruz.duartepecruze.workers.dev/work

Detecting Portuguese fake news NTT Data & Técnico Merit Prize 2025-26 · Second place, paper on Zenodo 2025-26

- Trained five classifiers on 63,000 European Portuguese articles; an MLP on TF-IDF reached 0.926 test F1 (BERT: 0.948).
- Explained them with LIME, L1 sparsity and topic clustering, and co-authored the paper. The model runs in the browser on this site.

Mapping invasive acacias from above JunctionX Lisbon 2025 · Winner, first place overall 2025

- Built a segmentation dataset from Portugal's COS2018 land-use map and fine-tuned YOLOv8n-seg to outline invasive acacia in satellite imagery.
- Wrote the FastAPI, Celery and Redis backend for asynchronous inference on uploaded imagery.

A meeting assistant for AR glasses Junction 2025, Espoo, Finland 2025

- Built the backend for a meeting assistant on Snapchat Spectacles: WebSocket audio streaming, silence-based chunking for low-latency captions, LLM summaries and task extraction, and text-to-speech.

Unscrolling, a news podcast made for one listener HackEurope 2026, Dublin 2026

- Built most of the FastAPI backend, the Gemini TTS and video pipeline and most of the React frontend for an agent that turns your feeds into a personal audio briefing; deployed it with Docker on Railway.

Earlier: EY AI Challenge (2025), CanSat Portugal (2023), Astro Pi (2023), Sports data app.

SKILLS

Machine learning	PyTorch, scikit-learn, YOLOv8, Hugging Face, LIME, Gemini and ElevenLabs APIs
Languages	Python, Go, Rust, C and C++, TypeScript, Java, C#, SQL
Infrastructure	Kubernetes, gRPC, Docker, CI/CD, FastAPI, Celery, Redis, Postgres, Neo4j, AWS S3
Spoken	Portuguese (native), English (C1, IELTS 8.0)