# Santiago Palomino Vazquez

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I build what I want to understand. My work spans artificial intelligence, autonomous systems, cybersecurity and software engineering, from research prototypes and competition software to small algorithms and practical tools.

## Experience

**Cybersecurity** Sep 2026 - Present
*Inditex* Spain

- Joined Inditex in a cybersecurity role focused on production-scale systems.

**Software Developer → Advisor** Nov 2024 - Present
*Auria Technologies - Formula Student AI* Developer through Aug 2026; advisor since Sep 2026

- Developed real-time autonomous-driving software spanning YOLO cone perception, mission planning, control and simulation on embedded hardware.
- Architected low-latency ROS 2 and NATS publish/subscribe communication, plus observability with InfluxDB, Grafana and Rerun.
- Validated vehicle behavior in IPG CarMaker and EUFS before physical-track deployment; continue contributing as an advisor.

**Cybersecurity Analyst Intern (SOC Level 1)** Feb 2026 - 02 Aug 2026
*Telefonica Tech - Security Operations Center* Internship

- Monitored and triaged security events across enterprise environments using SIEM platforms and network, endpoint and cloud telemetry.
- Supported administration and incident response across F5, Zscaler, Netskope, Proofpoint, Hornet and Akamai security services.

## Education

**BSc in Artificial Intelligence** 2022 - 2026
*University of Vigo* Vigo, Spain

- Coursework included machine learning, bio-inspired learning, computer vision, natural-language processing and software engineering.

## Selected Projects

**Cerebral Aneurysm Detection and Segmentation - Bachelor's Thesis** Private repository

- Built a coarse-to-fine 3D pipeline for TOF-MRA: full-volume localization, $128^3$ ROI segmentation, external validation and optional vessel-aware filtering.
- Produced an interactive review surface for precomputed, de-identified NIfTI-derived results; best ROI Dice 0.656 across 974 external series.

**Auria Autonomous System - Formula Student AI** Team repositories

- Implemented NATS-native planning and control services, regulation-aware competition missions, safety watchdogs and reproducible EUFS simulation.

**LinkedIn Puzzle Solvers - Computer Vision and Browser Extension** GitHub

- Built visual solvers for Queens, Tango, Zip, Mini Sudoku, Patches and other daily puzzles, with a FastAPI backend and one-click browser overlay.

**Traumatology Shift Scheduling - Hospital Alvaro Cunqueiro** Private project

- Designed a full-stack scheduling product and Go constraint engine for on-call duties, leave, exchanges, approvals, publication and auditable changes.

**Goofytex - Multimodal Fashion Retrieval** Team repository

- Combined OpenCLIP, YOLO, FAISS, metadata signals, hubness correction and weighted reciprocal-rank fusion for bundle-to-product retrieval.

## Selected Projects (continued)

**MITRE ATT&CK Assistant - Threat-Intelligence RAG** GitHub

- Built a conversational retrieval system over MITRE ATT&CK using LangChain, Chroma and configurable local or OpenAI embeddings.

**WikiRAG–ES - Hybrid Retrieval over Spanish Wikipedia** Private repository

- Implemented observable BM25, FAISS/HNSW, reciprocal-rank fusion and quantized vector-search experiments with a local Ollama generation path.

**CarFinder - Hybrid Vehicle Recommendation** Project repository

- Combined weighted preferences, content similarity, collaborative filtering and location signals in a guided desktop recommendation workflow.

**Medical Chatbot - Spanish Symptom Structuring** Academic prototype

- Explored structured symptom collection, synonym mapping and explicit negation handling in a clearly non-diagnostic conversational prototype.

**Search and Bioinformatics Experiments** GitHub

- Built Rubik's Cube solvers with BFS, A*, greedy and IDA* search; a Java Connect Four agent with Minimax and alpha–beta pruning; and a pip-installable FASTA workflow CLI.

## Technical Skills

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|---|---|
| **Languages** | Python, Java, C++, Go, SQL, Bash, JavaScript, TypeScript |
| **Machine Learning** / **AI** | PyTorch, nnU-Net, YOLO, OpenCV, OpenCLIP, FAISS, LangChain, LLMs, RAG |
| **Backend** / **Systems** | FastAPI, Node.js, REST APIs, NATS, ROS 2, Linux, Docker, CI/CD |
| **Data** / **Observability** | PostgreSQL, MySQL, MongoDB, InfluxDB, Chroma, Grafana, Rerun |
| **Simulation** / **Embedded** | EUFS, IPG CarMaker, NVIDIA Jetson Orin, Raspberry Pi, Arduino |

## Achievements

**1st Place - Ada Byron Competitive Programming** Apr 2025
Regional programming competition at the University of Vigo.

**2nd Place - HackUDC CTF Challenge** Feb 2025
Capture the Flag cybersecurity challenge at HackUDC.

**3rd Place - HackUDC Inditex Tech Challenge** Feb 2026
Built the visual-search and multimodal retrieval system that became Goofytex.

## Languages

Spanish (native) Galician (B2) English (B2) Catalan (basic)