

Pedro Luis Soto Santos

AI / Machine Learning Engineer

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SUMMARY

Machine learning engineer with a **Master's in Artificial Intelligence** (thesis with honors, 9.8/10, on multi-agent deep reinforcement learning) and **over 2 years of experience** at Minsait and Deloitte, including data pipelines for the **AI-driven risk models** of a top-tier bank. I build AI systems that make decisions, from **reinforcement learning** agents and search algorithms to **deep learning** models and **LLM** tools, shipped as tested, open-source software. **C1 English (Cambridge)**. Available immediately.

PROJECTS

AlphaZero for Connect 4 | *Python, PyTorch, pytest, GitHub Actions* Dec 2025 – Present

- Built **AlphaZero from scratch**, benchmarked against PPO, Rainbow DQN, MCTS and minimax. Reached the **global top 10** in Kaggle Connect X.

Multi-Agent Deep RL for Lunar Rovers (Master's Thesis) | *Python, TensorFlow/Keras, Gymnasium* Jun 2024 – Sep 2024

- Route planning for multiple lunar rovers collecting and transporting minerals, with **DDDQL** and **MAPPO** agents in a custom Gymnasium simulator. **Graded 9.8/10 with honors**.

pyplAI (Bachelor's Thesis) | *Python, PyPI* Sep 2022 – Jun 2023

- Open-source library of game-solving algorithms (**MCTS**, **minimax with alpha-beta pruning**, **SO-ISMCTS**, **MO-ISMCTS**) for perfect- and imperfect-information games, **published on PyPI**. **Graded 9.7/10 with honors**.

pyplAI-MCP and pyplAI Web | *Python, MCP, LLMs, Pyodide, TypeScript* Oct 2026

- MCP server** giving LLMs pyplAI's search algorithms as tools, benchmarked over 960 games with a local Llama 3.2 3B.
- Browser game against pyplAI's MCTS, running Python in **WebAssembly**, with difficulty calibrated over 1,080 games.

Store Sales Forecasting | *Python, pandas, XGBoost, LightGBM* Nov 2025 – Dec 2025

- Daily sales forecasts for 54 stores with a weighted **XGBoost** and **LightGBM** ensemble. **Top 5%** of Kaggle's final leaderboard.

EXPERIENCE

Minsait - Indra Jun 2023 – Feb 2025

Data Engineer Seville, Spain

- Led the modernization of data workflows for a top-tier banking client, managing one of the world's largest **Oracle Big Data** pools to support **AI-driven risk models**.
- Engineered and optimized complex **ETL pipelines** using **Oracle Data Integrator (ODI)** and **Python**, achieving a **50% reduction in processing time** and ensuring daily availability for critical operations.

Deloitte Jan 2023 – Jun 2023

Software Engineer Intern Seville, Spain

- Monitored and coordinated **software development projects** for the Spanish Ministry of Health, tracking timelines and deliverables and proactively identifying risks to maintain schedule and quality standards.
- Facilitated **requirements gathering** and translated client needs into actionable tasks for development teams.

EDUCATION

Master's Degree in Artificial Intelligence · International University of Valencia (VIU) Sep 2024

Honors in Master's Thesis (Multi-Agent Deep Reinforcement Learning, 9.8/10). Quantum Computing elective course.

Bachelor's Degree in Software Engineering · University of Seville Jun 2023

Honors in Bachelor's Thesis (9.7/10) and in **Artificial Intelligence**. Internal Student in the Department of Artificial Intelligence.

INTERNATIONAL EXPERIENCE

InterWay · *English Immersion Camp Counselor, Spain* Feb 2026 – Aug 2026

- Led groups of children fully in English, showing **advanced fluency, leadership and problem-solving**.

Accor · *Front Office Assistant, Brisbane, Australia* Mar 2025 – Oct 2025

- Front desk for international guests: **adaptability and communication** in a fast-paced, multicultural team.

SKILLS

AI & Data Science: Machine Learning, Deep Learning, Reinforcement Learning (DQN, PPO, MAPPO, AlphaZero), Search Algorithms (MCTS, Minimax), Computer Vision, NLP, Time Series Forecasting, Generative AI, LLMs, RAG Systems, MCP.

Programming: Python (PyTorch, TensorFlow, Keras, Scikit-Learn, Pandas, NumPy, XGBoost, LightGBM, Gymnasium, pytest), Java.

Databases: SQL, PL/SQL, NoSQL, MongoDB, Oracle Database, Oracle Data Integrator (ODI).

Cloud & DevOps: AWS, Docker, Git, GitHub Actions, CI/CD, Linux.

Methodologies: Agile, Scrum.

Languages: Spanish (Native), English (C1 Advanced – Cambridge Certified).