MARC MONFORT

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Google Scholar
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AI Researcher & Engineer · Multi-Agent Systems · HPC

PROFILE



Doctoral Researcher specializing in AI, Multi-Agent Systems, and high-performance computing. PhD research at Aalto University on Social Intrinsic Motivation (SIM) models for more reliable, proactive, and trustworthy artificial agents. Previously a research engineer at the Barcelona Supercomputing Center, building distributed data infrastructure for HPC. Peer-reviewed work on federated learning on microcontrollers.

SKILLS

Code: Python · Rust · C++
AI / RL: PyTorch · PettingZoo
Data: SQL · Redis · Pandas
DevOps: Docker · Kubernetes
Tools: Git · Linux · ESP32

EXPERIENCE

Jan 2026 – Present
Full time

Doctoral Researcher — Aalto University
Researching computational social intrinsic motivation for multi-agent reinforcement learning. Supervised by Prof. Christian Guckelsberger, Autotelic Interaction Research group.
Social AI · Multi-Agent RL · Python · PyTorch

Jan 2022 – Jan 2026
Full time | Part time

Research Engineer (RE1) — Barcelona Supercomputing Center
Developed **dataClay**, a distributed object store for HPC, deployed on MareNostrum 5.
Python · Java · Redis · Docker · HPC · Distributed Systems

Jul 2025 – Nov 2025
Part time

Research Visit (TEEP) — Taiwan Tech (NTUST)
Researched the AI-driven evolution of mobile networks.
5G/6G Networks · O-RAN · AI in Telecommunications

May 2021 – Jan 2022
Full time

Software Engineer — DXC Technology
Integrated observability solutions, enhancing system monitoring with Grafana and other tools.
Grafana · Prometheus · Ansible · ELK Stack

May 2020 – May 2021
Full time

Data Engineer — SDG Group
Developed ETL and SQL pipelines powering BI applications at CaixaBank.
SQL · Oracle Data Integrator · Qlik Sense · Tableau

EDUCATION

2024 – 2025
Master's exchange, Cyberspace Science and Technology — Beijing Institute of Technology
Specialization in Unmanned Intelligent Systems and IoT security.

2023 – 2025
Master's degree, Artificial Intelligence, 9.02/10 — Polytechnic University of Catalonia (FIB)
Specialization in Distributed and Multi-Agent Systems.

2017 – 2021
Bachelor's degree, Computer Science, 8.44/10 — Polytechnic University of Catalonia (FIB)
Graduated with Honours. Thesis: "TinyML: From Basic to Advanced Applications".

PUBLICATIONS

Electronics 2022
On-Device Training of Machine Learning Models on Microcontrollers with Federated Learning
N. Llisterri Giménez, **M. Monfort Grau**, R. Pueyo Centelles, F. Freitag. Electronics 11(4), 573, MDPI.

ACM GoodIT 2021
On-Device Training of Machine Learning Models on Microcontrollers With a Look at Federated Learning
M. Monfort Grau, R. Pueyo Centelles, F. Freitag. ACM GoodIT '21, pp. 198–203.

LANGUAGES

Spanish Native
Catalan Native
English Full professional proficiency
Chinese HSK 2

HONORS & AWARDS

1st **Aviation Cyber Challenge** · Aviation ISAC 2019
1st **WEC - Team Design** · BEST Barcelona 2019
2nd **WEC - Team Design** · BEST Barcelona 2018
1st **Mad-Max Challenge** · FIB-UPC 2018