Adrián **Meléndez**

Data Engineer · Machine Learning

Madrid, Spain

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Experience

GMV

Tres Cantos, Madrid, Spain

Data Engineer (Machine Learning) *Jul. 2023 - Present*

- Researched state of the art algorithms for data fusion of different sensor combinations such as Multi RADAR, Multi Camera, RADAR+Camera and different applications such as object detection, object tracking or segmentation.
- Built fully automated CI/CD pipelines on Jenkins and Gitlab CI for containerized applications using Docker.
- Leaded the implementation of classical tracking algorithms such as Extended/Unscented Kalman Filtering as well as AI-Enhanced algorithms such as KalmanNet or DANSE using Python.
- Developed a pipeline for testing different algorithms using the micro-services architecture and tools like Kubernetes for the deployment and Pulumi for InfrastructureAsCode.
- Worked on big datasets using SQL queries and databases in SQLite, Postgres or MariaDB.
- Managed a Linux server for a group of 15 people allocating resources and permissions to each individual and deploying useful applications for the team such as Portainer, k3d or OpenWebUI.

Internship, CIC NanonGUNE

Donostia-San Sebastián, Spain

Researcher: member of nanomagnetism group *Jun. 2021 - Aug. 2021*

- Research on ferromagnetic phase transitions in exchange graded layers.
- Participated in the design and creation of samples with different layer composition and widths through atomic layer deposition.
- Implemented data analysis on the experiment results and plotted them with Python.

Education

MSc in Theoretical Physics | Specialized in Astrophysics

Autonomous University of Madrid (UAM)

- 60 ECTS | Grade: $\mathbf{8.91/10.0}$
- Master's Thesis ($\mathbf{12}$ ECTS)
  - Title: *Analysis of high precision light curves of young stars with protoplanetary disks*
  - Grade: 8.5/10.0

BSc in Physics

University of the Basque Country (EHU)

- 240 ECTS | Grade: $\mathbf{8.93/10.0}$
- Top of the class - **Extraordinary Prize**
- **81 ECTS** with **Honors**
- Bachelor's Thesis ($\mathbf{12}$ ECTS)
  - Title: *Physics of heavy-ion collisions: Quark gluon plasma*
  - Grade: 9.5/10.0

BSc in Electronics Engineering

University of the Basque Country (EHU)

- 240 ECTS | Grade: $\mathbf{8.96/10.0}$
- Top of the class - **Extraordinary Prize**
- **72 ECTS** with **Honors**
- Bachelor's Thesis ($\mathbf{10.5}$ ECTS)
  - Title: *Study, development and evaluation of machine learning techniques in classification and/or prediction tasks: Exoplanet detection*
  - Grade: 9.4/10.0

Skills

DevOps	Docker, Podman, Kubernetes, Pulumi, Jenkins, GitlabCI
Programming Languages	Python, Java, C++, Fortran, C
Python packages	Stonesoup, Numpy, Scipy, Scikit-learn, Pytorch/Tensorflow, Pandas/Polars, Pydantic, Matplotlib/Seaborn/Plotly
Soft Skills	Leadership, Teamwork, Critical thinking, Decision making, Self-discipline, Work ethic
Languages	Spanish (native), English (C2 level)
Other tools	LaTeX, Jira

Honors & Awards

University of the Basque Country (EHU)

Bilbao, Spain

Extraordinary Prize in Double BSc in Physics & Electronics Engineering (Premio Extraordinario) *Nov. 2022*

- Awarded by the Degree Studies Committee of the UPV/EHU.
- Spanish academic distinction awarded to the top graduate in the Double BSc in Physics & Electronic Engineering.

Extracurricular Activity

Home Server

My own house

System Engineer *Present*

- Developed a home server with several applications accessible from anywhere through tools like nginx or traefik.
- Improved ability managing linux systems and users.
- Deployed different tools via docker compose and gained experience with volumes.
- Gained knowledge about network engineering and configured SSL certificates for each of the applications.
- Configured a hypervisor of type 1 to deploy virtual machines.

Tennis Tracking

Machine Learning Engineer *Jul 2025 - Present*

- Developed an algorithm to track players, the ball and key points in the tennis court using Python.

Arduino Sensors

Electronic Engineer *2017*

- Participated in a group of the university to create a self-maintained plant.
- Mounted different sensors in an Arduino to measure temperature, humidity, light, etc.
- Designed and coded an automated irrigation system triggered by sensor data to activate a water pump.