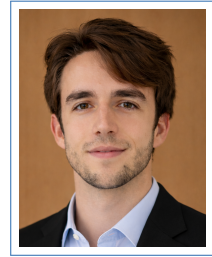# Guillermo Filgueira

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Profile

MSc Computational Science (UZH) + Maths & Computer Science (UPM). Data-focused engineer with hands-on experience in data engineering, web scraping, backend development and applied ML. Skilled in building data pipelines and production-ready services with Python, SQL, cloud and containerized environments. Interested in Data Engineering / Data Science, ML (time series, forecasting), and quantitative / risk / financial analytics.

Experience

Jun 2025 – Present

Backend Developer Intern (70%), *Nihito.io – ETH Startup*, Zurich, Switzerland
- Developed and maintained **FastAPI** backend services for an MVP platform; designed and managed **PostgreSQL** schemas and queries.
- Implemented platform features supporting multi-user workflows and operational tooling; improved reliability through structured logging and testing practices.
- Owned day-to-day **DevOps** operations: **Docker**-based deployments, cloud setup on **AWS**, and object storage with **MinIO (S3)**.

Jan 2025 – Present

Testing & Use-case Validation Assistant (30%), *Scandit AG*, Zurich, Switzerland
- Set up test environments and validated features for **ShelfView**; analyzed outputs and documented findings to support product iterations.
- Built automation and scripting tools in **Python** (and lightweight web tooling) to streamline repetitive workflows and data collection.

Apr 2025 – Aug 2025

Research Assistant – Web Scraping & Data Engineering, *ETH Zurich (D-MTEC)*, Zurich, Switzerland
- Built web scraping pipelines to collect and structure data from major social media and advertising sources for research use-cases.
- Implemented anti-bot handling, validation and storage strategies; delivered clean datasets ready for downstream analysis.

Aug 2023 – Jul 2024

Data Engineering Intern, *Simulyde*, Madrid, Spain
- Designed and deployed a **MySQL** database and internal data platform integrating **APIs** for financial/HR data management.
- Built ingestion processes including **web scraping**, transformation and quality checks to deliver structured datasets aligned with business needs.
- Developed forecasting prototypes for **electricity demand and energy prices** using **time series** and ML models (e.g., regression, neural networks); prepared historical datasets and engineered features for modeling.

Sep 2022 – Jul 2023

AI Consultant Intern (Computer Vision), *SRM Consulting*, Madrid, Spain
- Developed Python tooling to extract mapping datasets from **satellite imagery** and trained ML models for cartographic analysis using **TensorFlow**.
- Applied **transfer learning** to improve classification/segmentation performance; supported evaluation and iteration cycles with curated datasets.

Education

2024 – 2026	**MSc Computational Science**, *University of Zurich*, Zurich, Switzerland
2020 – 2024	**Dual Degree: Mathematics & Computer Science (240 ECTS)**, *Polytechnic University of Madrid (UPM)*, Madrid, Spain Entrance Grade: 13.351/14 Average: 7.52/10

Languages

Spanish	Native
English	C1 (Cambridge), IELTS 8.0 (Nov 2023)
German	B2 (UZH, Jun 2025) + EOI (Jul 2020)

Core Skills

Data	Python, SQL (MySQL/PostgreSQL), ETL/ELT, data modeling, data quality, APIs integration, web scraping, data pipelines
ML/AI	time series forecasting, regression, neural networks, TensorFlow, feature engineering, model evaluation, computer vision (classification/segmentation)
Engineering	FastAPI, Docker, Linux, AWS, MinIO (S3), Git, testing/automation, Agile/Scrum
Big Data	Hadoop (basic), NoSQL (basic)
Programming	Python (advanced), R, Java, C/C++, MATLAB

Interests

Data Engineering, analytics and visualization, statistical modeling, machine learning, time series forecasting, big data systems, quantitative finance, risk analytics, probability and statistics.