

María Aguilera García

SOFTWARE CONSULTANT · DATA SCIENCE ENTHUSIAST

Madrid, Spain

☎ (+34) 647-207-229 | ✉ mariaaguilera979797@gmail.com | 🏠 maria-aguilera.github.io | 📷 maria-aguilera | 📺 mariaaguileragarcia | 📧 maria-aguilera

Profile

Data science and machine learning enthusiast. I enjoy turning complex problems into practical solutions and creating value by blending curiosity, analytical skills, people skills, and languages. Having grown up in multiple countries, I feel at ease in diverse international environments. I'm especially motivated by challenging projects with steep learning curves where I can see the real impact of my work.

Skills

General Knowledge	Statistics, Econometrics, Machine Learning, Deep Learning, Reinforcement Learning, NLP
Programming	Python, SQL, R, Spark, Scala, HTML, CSS, JavaScript
Databases	RDBMS (IBM Db2, MySQL, Spark SQL), PostgreSQL, MongoDB
Big Data & Streaming	Hadoop HDFS, Apache Spark, Spark Streaming, Apache Kafka, Apache NiFi
Analytics & Visualization	Power BI, Google Data Studio, Matplotlib, Seaborn
Frameworks & Tools	TensorFlow, Keras, Pandas, NumPy, Scikit-learn, Flask, Git, GitHub, Jupyter, Google Colab
IBM Mainframe	z/OS, JCL, REXX, USS, Parallel Sysplex, RACF, TSO/ISPF, CICS TS, VSAM
Languages	Spanish (Native), English (Bilingual), French (Advanced), Portuguese (Basic)

Education

IE School of Human Sciences and Technology

Madrid, Spain

MASTER IN BUSINESS ANALYTICS AND BIG DATA (SPECIALIZATION IN APPLIED ARTIFICIAL INTELLIGENCE) | GPA: 8.85/10

Sept. 2021 – Jul. 2022

- Specialised in artificial intelligence and data science: Python, Machine Learning, Deep Learning, Reinforcement Learning, NLP, Time Series Forecasting, Social Network Analysis and SQL.
- Master thesis: Optimised the supply chain cycle to improve inventory turnover by predicting demand and the volume of raw materials.
- Technologies: Python, Facebook Prophet, ARIMA/ARMA/SARIMA/GARCH, XGBoost, CatBoost, Microsoft Power BI.

Carlos III University of Madrid

Madrid, Spain

BACHELOR'S IN BUSINESS ADMINISTRATION (BBA) | GPA: 7.53/10

Sept. 2016 – Jun. 2021

- Specialised in data analytics: Statistics I & II, Econometrics, Financial Economics, Game Theory, Data Mining for Business (R), Optimisation and Simulation for Business (Excel), Research Techniques (R).
- Undergraduate Thesis (Grade: 9.7/10) and 2019–2020 INNCYBER Innovation Award: "Corporate Data Breaches and Narrative Disclosures", analysing how firms' narrative communication reacts to data breaches.
- Tools: R (tidyverse, ggplot2, lubridate, PostgreSQL), fuzzy matching (Fuzzy Lookup), econometric and statistical techniques (DID, logit, fixed effects).

Projects

Raw Material Forecasting

Madrid, Spain

INDUSTRIAS DUERO · IE SCHOOL OF HUMAN SCIENCES AND TECHNOLOGY (MASTER THESIS PROJECT)

2022

- Optimised the supply chain cycle to improve inventory turnover by predicting demand and raw-material volume using ML and time-series forecasting on more than 1.5M data points.
- Built and compared forecasting models (Prophet, ARIMA/ARMA/SARIMA/GARCH, XGBoost, CatBoost) and created interactive dashboards in Power BI.
- Tech: Python, Facebook Prophet, XGBoost, CatBoost, time-series analysis, Power BI.

Corporate Data Breaches and Narrative Disclosures

Madrid, Spain

CARLOS III UNIVERSITY OF MADRID · BBA THESIS, INNCYBER INNOVATION AWARD (GRADE: 9.7/10)

2019–2020

- Analysed how data breaches affect firms' narrative disclosures in 10-K reports, distinguishing opportunistic vs. informative communication.
- Applied econometric models (DID, logit, fixed effects) on U.S. listed firms, combining breach, financial and textual data.
- Tech: R (tidyverse, ggplot2, lubridate), PostgreSQL, fuzzy matching, econometrics & statistics.

Forest Cover Type Prediction

Madrid, Spain

IE BUSINESS SCHOOL · MACHINE LEARNING II PROJECT (GRADE: 10/10)

2022

- Engineered features and compared several ML models to maximise accuracy versus other teams on a multi-class classification task.
- Tech: Python, scikit-learn pipelines, grid search, hyperparameter tuning, Matplotlib, Seaborn, Plotly.

Product Text Classification

ELEMETRICA LLC · CLIENT NLP PROJECT

- Built a text-classification model to unify heterogeneous POS product descriptions into a unique product code.
- *Tech:* TF-IDF, stemming, class-imbalance handling, scikit-learn, NLTK, Pandas.

Bike Sharing Demand Forecasting

PYTHON II GROUP PROJECT (GRADE: 10/10)

- Predicted hourly bike usage for Washington D.C. by exploring, cleaning and modelling time-based demand patterns.
- *Tech:* Python, exploratory data analysis, data cleaning, time-based validation.

Formula 1 Twitter Interaction Analysis

MODERN DATA ARCHITECTURES PROJECT

- Analysed Twitter interactions and circuits to understand how F1 teams, cities and sponsors can improve ROI from their campaigns.
- *Tech:* Apache NiFi, HDFS, Apache Spark, PySpark.

Instagram Graph Analysis and Community Detection

SOCIAL NETWORK ANALYSIS PROJECT

- Applied graph algorithms to detect communities and interaction patterns in Instagram data and visualised key structures.
- *Tech:* Python, graph analysis, community-detection algorithms.

Used-Car Market Analytics Concept

MERCEDES-BENZ · TALENT HIGHWAY 2022 HACKATHON

2022

- Developed a data-driven concept to analyse used-car market trends and identify opportunities in a specific niche.
- *Tech:* Python, data cleaning, feature engineering, ML modelling, teamwork.

Mental Health Support App Concept

PFIZER · INNO MAKERS4HEALTH 2022 HACKATHON

2022

- Designed an app concept to personalise monitoring and communication for patients with depression and anxiety.
- *Tech:* Python, product design, business model canvas, UX, teamwork.

Professional Experience

BMC Software

Madrid, Spain

SOFTWARE CONSULTANT

Feb. 2023 – Present

- Completed intensive training on IBM mainframe with RSM, including IBM z/Systems Environment, z/OS Concepts & Facilities, RACF, TSO/ISPF, JCL, Unix System Services, z/OS Data Storage Essentials, Parallel Sysplex, CICS Transaction Server, TCP/IP and VSAM.
- Associate Consultant in the DBA team, assisting in several Control-M for mainframe migrations.
- Used Python to create reports that facilitated the migration of customers' data from on-premise solutions to BMC's SaaS offerings.

EY (Ernst & Young)

Madrid, Spain

AUDIT INTERN ANALYST

Jan. 2020 – Apr. 2020

- Assigned mainly to SAETA (renewable energy sector, PCAOB regulated, listed on NASDAQ) and a second, smaller client with greater individual responsibility.
- Prepared, analysed and validated annual reports to build comprehensive audit working papers.
- Developed advanced attention-to-detail and Excel skills while coordinating with international team members.

Compañía Española de Algas Marinas S.A. (CEAMSA)

Vigo, Spain

TECH & FINANCE INTERN

Jun. 2019 – Jul. 2019

- Supported the Finance department with banking reconciliation, month-end close and journal entries.
- Received SAP Business One training from the IT department and provided first-level technical support to other departments.

Santander Bank Polska

Warsaw, Poland

M&A INTERN

Jun. 2018 – Jul. 2018

- Used S&P Capital IQ, Bloomberg and MergerMarket to perform corporate and industry-specific analysis.
- Prepared reports and presentations for senior colleagues to use in negotiation and client meetings.