MIGUEL ANGEL BRAVO MARTINEZ DEL VALLE

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PROFESSIONAL SUMMARY

Data Scientist with expertise in applied machine learning, AI integration, and real-time analytics. Skilled in Python, FastAPI, Docker, AWS, and ML Ops pipelines for scalable, explainable, and production-ready ML solutions bridging data science and software engineering.

PROFESSIONAL EXPERIENCE

Premier Analytics Consulting, LLC, San Diego, California — May 2025 – Present
Junior AI & Data Science Consultant

- Designed and implemented data pipelines and FastAPI backends to automate ingestion and transformation of large-scale research and environmental datasets across AWS S3 and on-prem servers.
- Built and deployed containerized AI systems using Docker and Ubuntu, improving model reproducibility and deployment efficiency.
- Developed a localized multilingual AI assistant for document summarization, translation, and knowledge retrieval using open-source LLMs (Mistral-7B, LLaMA 3), optimizing inference latency and cross-lingual accuracy.
- Collaborated on end-to-end product delivery, integrating ML components with React frontends and RESTful APIs, and applying DevOps practices.

iHeatApp - SDSU Climate Informatics Lab, San Diego, California — June 2024 – November 2025
Junior AI & Data Scientist

- Developed a bilingual AI-driven platform to visualize real-time WBGT heat-risk maps and provide contextual safety insights through a custom LLM-based chatbot.
- Built and validated forecasting pipelines using NOAA NBM data (Herbie/xarray), integrating geospatial modeling and environmental analytics for hourly predictions.
- Integrated WBGT forecast data into a dynamic visualization pipeline, ensuring accurate geospatial rendering and hourly forecast updates for the Imperial Valley region.
- Authored a peer-reviewed paper in Agricultural and Forest Meteorology (Elsevier) detailing the system architecture, modeling framework, and user-centered evaluation.

Center for Information Convergence and Strategy, San Diego, California — August 2023 – May 2024
Data Science Research Assistant

- Applied multivariate statistical and time-series analyses to study nutrient dynamics and eutrophication in Irish agricultural catchments.
- Developed automated R pipelines for data cleaning, interpolation, and quality-flagging, improving reproducibility of environmental modeling workflows.
- Supported predictive modeling for nutrient concentration trends using regression and spatial-temporal clustering techniques.

Smart Campus - HorstSort II, University of Málaga, Spain — March 2022 – June 2022
Engineering Intern

- Designed and deployed an IoT-based environmental monitoring system (ESP8266 + NodeRed + MQTT) for real-time sensing of temperature, humidity, and light.
- Documented and deployed the system architecture, ensuring reliable real-time sensor integration.

TECHNICAL SKILLS

- **Machine Learning & AI:** Scikit-learn, XGBoost, PyTorch, TensorFlow, Hugging Face, LLM Integration (OpenRouter, Ollama), RAG, Qdrant, LangChain.
- **Data Processing:** Pandas, NumPy, xarray, SciPy, Herbie, R (dplyr, tidyr).
- **Visualization:** Matplotlib, Plotly, Deck.gl, Tableau.
- **Statistical Modeling:** ANOVA, PCA, Time Series (SARIMA), Hypothesis Testing.
- **DevOps:** Docker, Git/GitHub, AWS (S3, EC2).

EDUCATION

San Diego State University, San Diego, California — August 2023 - May 2025
Master of Science in Big Data Analytics — GPA: 3.9

Miami University, College of Engineering and Computing, Oxford Ohio — August 2022 - May 2023
Foreign Exchange Program — GPA: 3.84

University of Málaga, Industrial Engineering School, Málaga, Spain — September 2018 - May 2023
Bachelor of Science in Electronics, Robotics & Mechatronics Engineering — GPA: 7.8/10

SELECTED PROJECTS

Developed and deployed **Weather with Cloudya**, a containerized real-time climate analytics platform integrating Python, FastAPI, and open-source LLMs to provide interactive weather forecasts and AI-driven interpretation. Applied machine learning techniques across multiple projects, including **Diamond Price Prediction** using tree-based and neural network models to optimize regression performance, and time-series forecasting of **Walmart Sales** with SARIMA models achieving robust predictive accuracy. All the projects and interactive demos available at mabravo.com

AWARDS & RECOGNITION

WUSS 2024 Scholar | ISEP Merit Scholar | First-author paper in Agricultural and Forest Meteorology (Elsevier)