ALEJANDRO GORGUES VALENCIANO

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SKILLS

Languages: Spanish (Native), English (B2)
Programming: Python, SQL, R, JavaScript
Data Science : Python env (Scipy, Numpy, Pandas, Matplotlib), Scikit-learn, PyTorch
Geospatial tools: Python env (Rasterio, Shapely, Geopandas), GDAL, CDO
Version Control: Git
Monitoring: Datadog
Cloud and Containerization: Docker, AWS
Data Processing: Hadoop, Spark
Visualization: PowerBI, Tableau
Database: SQLServer, PostgreSQL, MongoDB, Firebase

WORK EXPERIENCE

Data Engineer   December 2023 – Current

Vexiza   León, Spain

- Design and implementation of Data Analysis and Machine Learning solutions in environments requiring geospatial and weather data.
- Design and deployment of services, requiring management of real-time products mainly from forecasting sources such as Eumetsat, ECMWF and NOAA.
- Design, development and integration of backend services, ensuring interoperability between systems through APIs and middleware.
- Development of I+D+i projects focused on technological innovation and process improvement in analysis and risk prevention on weather prediction and contamination environments.

Doctoral Researcher   December 2021 – Novembre 2023

Instituto Nacional de Técnica Aeroespacial (INTA)   Torrejón de Ardoz, Spain

- Study and application of machine learning and reduced order models applied to aerodynamics in nonlinear environments.
- Collaboration in the development of the aerodynamic database (multi-precision) that will be used to train the models with experts in aeronautics.
- Validation of the implemented methods to study the level of accuracy obtained against real cases.

Software developer   January 2020 – December 2021

Instituto Nacional de Técnica Aeroespacial (INTA-CAB, Astrobiology Center)   Torrejón de Ardoz, Spain

- Algorithm adaptation and processing tools, visualization and analysis of data, image and 3D infrared spectroscopy.
- Integration of calibrated data and advanced products into astronomic data bases and into astrophysics specialized software packages.
- Development of procedures and tools for data combination and joint analysis with large volumes of data.

Administrator System   February 2019 – December 2019

Instituto Nacional de Técnica Aeroespacial (INTA-CAB, Astrobiology Center)   Torrejón de Ardoz, Spain

- Network, data base, and server administration.
- Network monitorization.
- User support.
- Linux system administration.

Internship   March 2017 – May 2017
Instituto Nacional de Técnica Aeroespacial (INTA)   Torrejón de Ardoz, Spain
- Processing, analysis and presentation of data obtained in flight tests.
- Data base development for the flight test area.

EDUCATION

Master Degree | *Business Intelligence and Data Science*   November 2019 – December 2020
University of Alcalá de Henares   Alcalá de Henares, Spain

Master Degree | *Development of Applications and Services for Mobile Devices*   September 2018 – June 2019
Technical University of Madrid   Madrid, Spain

Computer Science Degree   September 2012 – June 2017
University of Alcalá de Henares   Alcalá de Henares, Spain

COMPLEMENTARY FORMATION

Mathematics for Machine Learning and Data Science Specialization   January 2024
Coursera

IBM Data Engineering   November 2023
Coursera

Measurement uncertainty calculation   November 2022
Instituto Nacional de Técnica Aeroespacial (INTA)

Deep Learning Specialization   September 2022
Coursera

Hands on Machine Learning for Fluid Dynamics   February 2022
von Karman Institute

Scientific Advance Python   November 2021
Instituto Nacional de Técnica Aeroespacial (INTA)

Matlab Advanced   November 2021
Instituto Nacional de Técnica Aeroespacial (INTA)

SOMACHINE Machine Learning, Big Data, and Deep Learning in Astronomy   April 2021
Institute of Astrophysics of Andalusia

CONFERENCES AND PRESENTATIONS

A. Gorgues, R. Castellanos, J. Nieto-Centenero and Andrés E.   July 2023
Application of a deep neural network for Cp prediction on multiple wing geometries in a transonic regime
EUCASS2023

A. Gorgues, R. Castellanos, J. Bowen-Varela and Andrés E.   June 2022
A comparison of machine learning methods for pressure coefficient prediction of an aeronautical configuration
ECCOMAS2022

CERTIFICATIONS

English
Cambridge English Level 1 Certificate in ESOL International (First)