Curriculum Vitae

Name:	A. Fernández Rodríguez MSc.
First Name:	Amelia
Date of Birth:	19 June 1997
Nationality:	Spanish
Main Disciplines:	Data Processing, Machine Learning, Software Development, Remote Sensing, Geospatial Analysis, Capacity Building
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Key Qualifications

Amelia Fernández MSc. holds a BSc. In Telecommunications Systems Engineering and a MSc. In Telecommunications Engineering from Polytechnical University of Cartagena, Spain. Taking advantage of the wide range of possible applications of Telecommunications, she had been focused during her study on trying to use remote sensing for solving real problems and challenges related to Climate Change and Earth Observation. Amelia has developed expertise in geospatial analysis (QGIS), software development and forecasting tools for supporting sustainable water resources management and developing climate adaptation strategies.
In addition, she has designed and delivered training programs in countries such as Zambia and Pakistan for well-known institutions as NUFFIC (the Netherlands) and the Food and Agriculture Organization of the United Nations (UN-FAO).

Educational Background

2019 – 2021	MSc. Master of Engineering, Telecommunications Engineering, Polytechnical University of Cartagena. Exchange semester as Erasmus student at Ghent, Belgium. Thesis: *When the network operator becomes a utility company: accounting for energy cost in wireless network design*.
2015 – 2019	Bachelor of Science in Telecommunications Engineering, Polytechnical University of Cartagena. Thesis: *Use of Deep Learning Techniques to detect trees from satellite images*.

Professional Experience

2021 – present	Data Analyst, FutureWater, Cartagena, Spain
2019	Collaborator – Polytechnical University of Cartagena

Overseas Experience

2020	Erasmus student at Ghent University, Belgium. Department of Information Technology. WAVES department: wireless, acoustics, environment & expert systems.

Selection of Assignments and Projects

2022 – 2026	**MAGDA: Meteorological Assimilation from Galileo and Drones for Agriculture.** Providing weather forecasts and irrigation advisories in an integrated system for the agricultural sector. Client: European Commission Position: remote sensing analyst
2022 – 2026	**SOS-Water**: **Water Resources System Safe Operating Space in a Changing Climate and Society**: improving upon existing Earth Observation technologies for monitoring the performance of water systems. Client: European Commission Position: modeller, data analyst
2021 – 2024	**InfoSequia-4CAST**: Forecasting and Quantifying Risks of Crop and Water Supply Failures using Machine Learning and Remote Sensing. Development of a drought and early warning system capable of retrieving multi-source indices to monitor the drought status of a given region at the district level. In addition, the system uses Machine Learning techniques to forecast water supply and crop yield failures up to six months ahead. Client: European Space Agency (ESA) (Incubed Programme)
2022 – 2023	**Capacity Building on Water Accounting in Pakistan**: designer of the remote sensing module, where participants learnt how to gather and analyze data from Google Earth Engine in order to implement Water Accounting at different spatial scales. Client: FAO Pakistan Location: Islamabad, Pakistan Postition: Google Earth Engine Trainer
2022	**Tailor-made Training on Geo-spatial Data Skills Development in Zambia:** use of Google Earth Engine to assess trends in land use, management, degradation and hotspots for intervention. Client: NUFFIC Location: Lusaka (Zambia) Position: Google Earth Engine Trainer
2021-2022	**Transforming Weather Water data into value-added Information services for sustainable Growth in Africa** (**TWIGA**): development of a framework capable of providing meteorological indexes at Inkomati Basin (Mozambique) in order to prevent the worst effects of drought. Client: European Commission (RIA project, H2020 Programme).

Language Skills

Spanish:	Native speaker
English:	Fluent in writing and speech

Computer Skills

Programming:	Python (advanced), R (intermediate), Matlab (Basic), Java (Basic), SQL (basic)
GIS / Remote Sensing:	QGIS, Google Earth Engine

Modelling:	Machine Learning
Version control:	Github, Bitbucket
Management tools:	JIRA, Confluence
Front-end tools:	RShiny, MapStore, Flask