Serena Langiano

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🔗 **LinkedIn:** https://www.linkedin.com/in/serena-langiano-89a814170/

🌐 **Website:** https://github.com/SerenaLangiano/Data-Analysis-Portfolio

📍 **Home:** CV34 5AT Warwick (United Kingdom)

DIGITAL SKILLS

Python

Pandas / NumPy / Matplotlib / Seaborn / SciPy / Scikit-Learn

SQL

Machine Learning

Supervised Learning / Unsupervised Learning / Reinforcement Learning

Matlab & Simulink

Microsoft Power BI

Excel

Conditional Formatting / Logical Operators / Math Functions / Data Manipulation

Descriptive Statistics

WORK EXPERIENCE

Data Analyst

EDP [01/2020 – Current]

Country: United Kingdom

Key Responsibilities

Data Mining and Data Quality
- Collecting large datasets from various sources and transforming it into a structured format for analysis
  - Operational data from renewable energy power plants SCADA systems via FTP, API and MySQL workbench for performance analysis
  - Historical meteorological data (GIS) via API request to open source databases for resource assessment
  - Marketing data from forms and Google Analytics to evaluate communication strategy
- Defining KPIs to measure data quality such as, completeness, accuracy and consistency, and developing Python scripts to automatically calculate these metrics regularly
- Implementing Data Validation checks to ensure that incoming data meets predefined standards (format checks, range validations, etc.)
- Developing Data Cleaning tools in Python to clean and standardize data by correcting errors, removing duplicates, normalizing formats, identifying outliers

Data Analysis
- Data Analytics using Python and MySQL to derive insights on operational data (i.e. faults, efficiency, etc) with the goal of supporting in asset management tasks
- Analysis of historical meteorological data for renewable energy resource assessment (wind, solar and ocean energy) and economical analysis (LCOE, NPV, IRR, Payback period) to drive investment decisions
- Data Analytics on marketing data to monitor and improve communication strategies. Key findings on: audience engagement rate, bounce rate, average page views, leads per category, leads per source

Data Visualization
- Creating customized presentations, Power BI dashboards, and data visualizations to effectively communicate key findings, insights, and recommendations to stakeholders
- Generating regular and ad-hoc reports to provide visibility into cost drivers, trends, and opportunities for improvement, to inform business decisions and strategies

Project Management
- Collaborating with the team to fulfill complex data requests on time and with high quality
- Risks identification and mitigation
- Strong attention to detail and organizational skills, with the ability to manage multiple projects simultaneously

Communication
- Ability to clearly communicate complex data findings to non-technical stakeholders
- Collaborating with cross-functional teams to identify data needs and develop solutions to address business challenges
- Ability to engage with multiple management levels across business units
- Self-motivated, proactive, and capable of working independently or collaboratively in a team

Key Achievements

- Used descriptive analytics to assess PV farm health/performance, recommending panel orientation and maintenance adjustments, boosting energy production by 5%
- Developed a tool for financial assessment of renewable energy projects (solar, wind, wave and tidal), comprising: resource assessment, site characterization and economical analysis (LCOE, NPV, IRR, Payback period)
- Improved leads acquisition by implementing data quality measures and improved budget allocation across communication channels

EDUCATION AND TRAINING

Master's Degree in Electrical Engineering
University of Cassino and Southern Lazio

Country: Italy │ **Final grade:** 110/110 cum laude (full marks with honors) │ **Thesis:** Probabilistic modelling of a prosumer for the management of smart grids

Bachelor's Degree in Industrial Engineering
University of Cassino and Southern Lazio

Country: Italy │ **Final grade:** 109/110 │ **Thesis:** Interventions to increase the efficiency of a single-phase shunted pole motor for cooker hoods

CERTIFICATIONS

[04/2024 – 05/2024]
Microsoft Power BI Data Analyst Professional Certificate

Link: https://coursera.org/share/a2b90cae03e450067d6b9c09f54e3e60

[06/2023 – 08/2023]
Microsoft Certified: Azure Data Fundamentals

Link: https://learn.microsoft.com/en-gb/users/serenalangiano-9408/credentials/19061c06d53518be

[06/2022 – 08/2022]
Machine Learning Specialization

Specialization articulated over three Courses:
- Supervised Machine Learning: linear regression, logistic regression and gradient descent

- Advanced Learning Algorithms: neural networks, decision trees, practical advices for ML algorithms
- Unsupervised Learning, Recommenders, Reinforcement Learning: clustering, anomaly detection, collaborative filtering, content-based filtering and reinforcement learning

Link: https://www.coursera.org/account/accomplishments/specialization/XMH4BCSZP37G

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English	**Portuguese**
LISTENING C1 **READING** C1 **WRITING** C1	**LISTENING** A2 **READING** A2 **WRITING** A2
SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1	**SPOKEN PRODUCTION** A2 **SPOKEN INTERACTION** A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PUBLICATIONS

[2023]

Study on the offshore energy potential in the Atlantic Ocean Write This document is reporting the study on the offshore energy potential in the Atlantic Ocean. The European Green Deal set out the policy initiatives of the European Commission to transform Europe into a climate-neutral continent by 2050. Towards this goal, the European 2030 climate target plan posited the need for reducing greenhouse gases emissions by at least 55% by 2030 relative to 1990 levels. The potential of offshore renewable energies to contribute to the decarbonisation process and support a modern, resource-efficient and competitive economy, with maritime occupation compliant with the EU Biodiversity Strategy9 was also put forward by the Green Deal Communication in the framework of the European Green Deal. In sum, harnessing the vast ocean resources is a must in the plan for Europe to become climate neutral by 2050.here the description...

[2023]

Non-stationary Finite Horizon Markov Decision Process for O&M tasks recommendation and planning in PV parks
International Conference on Artificial Intelligence for Energy and Renewable Energy Systems (ICAIERESYS-23), Coimbra, Portugal, 17th May.

[2023]

AI4PV: Digital Twin and Artificial Intelligence for the Operation and Maintenance of PV parks International Conference on Artificial Intelligence for Energy and Renewable Energy Systems (ICAIERESYS-23), Coimbra, Portugal, 17th May.

[2023]

The impact of robotic technologies on timings and cost of offshore wind inspection and maintenance activities Author of Conference Poster WindEurope 2023, Copenhagen, Denmark, 25-27 April 2023.

[2022]

Study on the offshore renewable energy potential in the Atlantic Ocean Co-author of Conference Poster ICOE 2022, Donostia/San Sebastian, Spain, 18-20 October 2022.

[2022]

Robotic technologies to increase site accessibility and reduce downtime in offshore wind farms Co-author of Conference Poster - WindEurope Bilbao 2022, Bilbao, Spain, 5-7 April 2022.

[2022]
Increasing the uptake of EO based services in the scope of offshore wind farm planning and operations activities Co-author of Conference Poster WindEurope 2022, Bilbao, Spain, 5-7 April 2022.

[2021]
ATLANTIS - The Atlantic Testing Platform for Maritime Robotics Conference Publication - Oceans 2021: San Diego-Porto.

[2021]
Atlantis shaping future robotised o&m in offshore wind IAHR's HydroLink 2021-3 Offshore Renewable Energy.

HONOURS AND AWARDS

University of Cassino and Southern Lazio
'Maurizio Scarano' Degree Award This acknowledgement annually awards a graduate in Engineering from University of Cassino and Southern Lazio who, through the elaboration of their thesis, has faced innovative topics, with particular attention to technological innovation and its replication potential in local SMEs.