Beniamino **Tartufoli**

RESEARCH ASSISTANT

✉ beniamino.tartufoli@cmcc.it

Summary

Research Assistant at the Euro-Mediterranean Center on Climate Change (CMCC). My interest focuses on data assimilation, machine learning, and environmental data analysis.

Work Experience

Euro-Mediterranean Center on Climate Change   *Bologna, Italy*

RESEARCH ASSISTANT   *Mar. 2025 - Ongoing*

- Work in the Regional Ocean Data Assimilation research unit, focusing on machine learning applications
- Contributions to a tool for the validation of data assimilation experiments
- Contributions to a work for filling gaps in sea surface measurements from satellites in the infrared band, through machine learning

Education

M.S. in Physics of the Earth System   *Bologna, Italy*

UNIVERSITY OF BOLOGNA, UNIBO   *Sep. 2021 - Dec. 2024*

- Graduated with 110/110
- Thesis title: *Sea Temperature Monitoring From Air Temperature Data, a Neural Network Approach*
- Supervisor: Paolo Oddo
- Relevant coursework: Data Assimilation for Dynamical Systems, Pattern Recognition, Physical Oceanography

B.S. in Physics   *Camerino, Italy*

UNIVERSITY OF CAMERINO, UNICAM   *Oct. 2017 - Sep. 2021*

- Graduated with 110/110
- Thesis title: *Measurement of the Entanglement of GHZ States on IBM Quantum Experience*
- Supervisor: David Vitali

Technical high school diploma   *San Severino Marche, Italy*

ITTS EUSTACHIO DIVINI   *Sep. 2012 - Jul. 2017*

- Score: 98/100

Projects

Neural network derived observational operator

CURRENT WORKING PROJECT

- Development of an observational operator for air temperature assimilation in SST modelling.
- Adopted frameworks: Keras and Tensorflow

Neural networks for sea temperature monitoring

THESIS PROJECT

- Implemented neural network models for sea temperature reconstruction from air temperature data
- Adopted frameworks: Keras and Tensorflow

Graph Neural Network for heatwave prediction

EXAM PROJECT

- Implemented a Graph Neural Network model, trained on daily atmospheric data, to predict heatwaves in Italy
- Adopted frameworks: PyTorch and PyTorch Geometric

Network analysis of heatwave events

EXAM PROJECT

- Built graphs from atmospheric heatwave events in Italy locations and analysed their properties through network measures

Skills

Languages	Italian (First language), English (Advanced)
Programming	Proficient in Python
	Familiar with libraries for data analysis and visualization such as NumPy, Pandas, Xarray and Matplotlib
	and libraries for deep learning such as Keras, Tensorflow, PyTorch and PyTorch Geometric
	Basic knowledge of Bash
Markup languages	LaTeX, Markdown

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV and application for recruiting purposes

July 7, 2025

Beniamino Tartufoli