



Mattia Ceccarelli

Date and Place of Birth: 2 September 1996, Faenza (RA), Italy

📞 3465355575 | ✉ mattia.ceccarelli5@unibo.it | 📱 Mat092 | 🏠 M. Ceccarelli

About Me

I am a researcher and data scientist currently working on statistical and machine learning models for animal well-being at the department of. Passionate about data science, programming, machine learning and numerical methods.

Education and Experiences

Post Doc

DISTAL, DEPARTMENT OF AGRICULTURAL AND FOOD SCIENCES - UNIVERSITY OF BOLOGNA

Bologna, Italy

Jan 2024 - Present

- Won a post-doc at the University of Bologna for numerical analysis applied to precision dairy farming and animal health

Visiting Ph.D.

BIOSYSTEMS DEPARTMENT, KU LEUVEN, BELGIUM

Leuven, Belgium

Aug 2022 - Nov 2022

- Visiting Ph.D. period at KU Leuven at the department of Biosystems, under the supervision of Prof. Ben Aernouts and the Livestock Technology group.
- Study on time-series of fat and protein percentages
- Linear mixed models for analysis of milk components

Ph.D. in Agricultural, Environmental and Food Science and Technology - STAA

DISTAL, DEPARTMENT OF AGRICULTURAL AND FOOD SCIENCES - UNIVERSITY OF BOLOGNA

Bologna, Italy

Nov 2020 - Jan 2024

- Thesis Project: "Applications and development of machine learning and deep learning models for biosystems analysis"
- Main studies: machine learning, time-series analysis, data science applied to plants, animals and biosystems

Master Degree in Physics

UNIVERSITY OF BOLOGNA

Bologna, Italy

2018-2020

- Thesis: "Optimization and applications of deep learning algorithms for super-resolution in MRI"
- Mark: 110/110 *cum laude*
- Main studies: deep learning, data science applied to biophysics, network analysis, programming in python and R

Bachelor Degree in Physics

UNIVERSITY OF BOLOGNA

Bologna, Italy

2015-2018

- Thesis: "Analysis of complexity for neural networks generated through genetic algorithm"
- Mark: 106/110

Skills

TECHNICAL

- **Languages:** Python 🐍
- **Frameworks:** Pandas, Scikit, Numpy, Tensorflow, PyTorch
- **Familiar with:** C, C++, R, Bash
- **Softwares:** LaTeX, OfficeSuite, Git / GitHub
- **OS:** Linux Ubuntu, Windows

LANGUAGES

- **Mother tongue:** Italian
- **Foreign language:** English,

Reading	Listening	Speaking	Writing
C2	C2	C1	B2

IELTS - British Council 22/06/2019 - Mark: 8.0 - European Level C1

Research Projects

Smart dairy farming: innovative solutions to improve herd productivity (MUR-PRIN)

DISTAL - University of Bologna

DATA SCIENTIST, MACHINE LEARNING DEVELOPER

2020 - 2023

- Development of models for estimation of dairy cattle's production based on climatic conditions.
- Time-series analysis for events prediction related to mastitis.
- Data-driven improvement of animals' well-fare and Precision Livestock Farming (PLF).

Big data and advanced analytic for sustainable management of the dairy cattle sector (EIT Food)

DISTAL - University of Bologna

DATA SCIENTIST, MACHINE LEARNING DEVELOPER

2021 - 2023

Analysis and assessment of anomalies in production time-series related to heat-stress in dairy cattle.
Automatic identification of anomalies in production and milk quality data

SIMTAP: Self-Sufficient Integrated Multi-Trophic Aquaponics systems (PRIMA)

DISTAL - University of Bologna

DATA SCIENTIST, MACHINE LEARNING DEVELOPER

2020 - 2023

Data handling and data cleaning for time series analysis of greenhouses
Monitoring of climate condition
Energy consumption analysis

Personal Projects

NumPyNet ([GitHub](#))

NEURAL NETWORK LIBRARY IN PURE NUMPY

2019 - Present

- A python framework that let you build your convolutional neural network with the most used layers
- An easy to read numpy-only implementation
- Useful for learning and teaching purposes

Other Experiences

Academic Tutor - Mathematics

Imola, Italy

UNIVERSITY OF BOLOGNA - BACHELOR IN SCIENCE AND TECHNOLOGY FOR GREEN SYSTEMS AND LANDSCAPE

Oct 2023 - Present

The tutoring consistend in 40 hours of in-presence lessons for reviewing the main concept of mathematics and exercises.

Academic Lessons - Machine Learning

Bologna, Italy

UNIVERSITY OF BOLOGNA - PH.D. COURSE IN HEALTH, SAFETY AND GREEN SYSTEMS

2023 - 2024

The two events consisted of 4 hours frontal lessons where the teaching focus was on programming in python for big data managment and machine learning for the PhD course in Health Safety and Green Systems of the University of Bologna

Other

BOLOGNA

2015 - 2020

- Part-time job over a three years period in different offices at Bologna University.
- Private lessons for high school and undergraduate students in physics, mathematics and informatics