



# Lorenzo Posti



born: 16/10/1988 — Perugia (IT)



lorenzo.posti@gmail.com



Strasbourg (FR)



LinkedIn



ML\_blog



lposti



Scholar



Publications

## About me



Research scientist with a Ph.D. in physics and 10+ years experience in **data science, creative modelling, software development, communication.**

Skilled and trained in **critical thinking, machine learning, data analysis, and statistics.** Always intrigued by **cutting-edge algorithms on the arXiv.**

Seeking new challenges as a data scientist & eager to lend my research methodology to build together something new, for a better future for all.

## Skills



### Programming:

- python, jupyter, C++, LaTeX, git, bash, sphinx-docs
- pytorch, numpy, scipy, pandas, matplotlib, numpyro
- MPI / OpenMP, SQL (basics)

### Technical:

- descriptive, predictive, and generative modelling
- data interpretation, model uncertainty assessment
- regression, optimisation, MCMC, neural network, VAE, diffusion models, gaussian processes
- project planning, problem solving

### Communication:

- report/paper writing, presentations, public speaking
- constructive reviewing, mentoring

### Soft:

- positive & encouraging attitude, constructive criticism
- worked in a multi-cultural environment in 5 countries
- leadership over small teams (~5)
- team player in large teams (~10 - 100)
- organisation of internal and international meetings
- accustomed to deadlines & multi-tasking

## Languages



Italian — native language

English — fluent (C1/C2)

French — intermediate (B1/B2)

## Other



Popular science articles: [LAA](#), [NOVA](#), [ObAS](#)

## Experience



### Summary of research output:

38 peer-reviewed papers, 984 citations, h-index: 18 (source [ADS](#), [ORCID](#)).

60+ seminars given worldwide, 9 repositories on [GitHub](#), 5 data catalogs on [Vizier](#).

### Research scientist

2023-  
2019

University of Strasbourg (FR)

- Modelling large astronomical datasets with **machine learning** techniques
- Analysis of terabytes of data, filtering noise from signal with own pipelines
- Started a [deep learning blog](#), used in internal group meetings
- Leading small international teams successfully producing research output
- Mentoring of students, **organisation** of international meetings

2019-  
2016

University of Groningen (NL)

- Analysis and modelling of **large astronomical catalogs** of >1 billion stars
- Methods: machine learning, **Bayesian statistic**, probabilistic modelling
- Member of large international collaborations and local working group

### Ph.D. researcher

2016-  
2012

University of Bologna (IT)

- Pioneered new **generative models** of galaxies based on distribution theory
- Used **HPC facilities** to perform computer simulations of galaxies
- Worked in prestigious institutes abroad for ~10 months (UK, USA)

- I curate a [deep learning blog](#), coding cutting-edge algorithms from scratch
- I taught classes of **python**, classical **machine learning**, and astronomy
- Over the years, I strived to stay up-to-date on the latest tech completing numerous courses: e.g. MPI/OpenMP, GPUs, pytorch, [fast.ai](#)

## Education



2015-  
2012

Ph.D. in Astrophysics — University of Bologna (IT)

[Thesis](#): "On the luminous and dark matter distribution in early-type galaxies"

2012-  
2010

M.Sc. in Astrophysics — University of Bologna (IT)

Grade: 110/110 cum laude

2010-  
2007

B.Sc. in Astrophysics — University of Bologna (IT)

Grade: 110/110 cum laude

## Research Funding



### Grants

- CNES fellowship, Strasbourg (FR), 2019 — 50 k€
- Ph.D. fellowship, Bologna (IT), 2012 — 40 k€
- CNRS grant for conferences, Univ. of Strasbourg (FR) — 10 k€
- Travel grants from IAU, Univ. of Groningen (NL) — 4 k€

### Computing Time

- 200 khrs of computing time at [CINECA](#) HPC facility (PI: Posti)

### Telescope Time

- PI & co-I of 5 observing runs at the most competitive facilities in the world

## Honours & Prizes



- ISSNAF - INAF prize funding an internship at STScI, Baltimore (USA), 2011
- Qualification for lecturer in physics & astronomy, France, 2020
- Invitation as an expert panel **reviewer** for the Spanish Space Agency, 2020
- Reviewer for professional journals e.g. Nature, Astrophysical Journal