Lorenzo Posti

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Strasbourg (FR)

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

icons: flaticon.com

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