











# About me-®

Research scientist with a Ph.D. in astrophysics and 10+ years experience in data science, machine learning, creative modelling, software development, statistics, and communication.

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



## **Programming:**

- python, jupyter, C++, SQL, LaTeX, bash, git
- pytorch, numpy, scipy, pandas, scikit-learn, numpyro
- CI/CD, MPI/OpenMP, ADQL

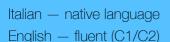
### Technical:

- descriptive/predictive/generative/data driven modelling
- machine learning, neural networks, MCMC, autoencoders, diffusion models, gaussian processes
- project planning: ModelOps/MLOps, Agile/Scrum

### Soft:

- positive attitude, constructive criticism
- worked in multi-cultural environments in 5 countries
- leadership & collaborative roles in teams
- public speaking, paper writing & reviewing





French — intermediate (B1/B2)



Popular science articles: L'Astronomie Afrique, NOVA, Observatoire de Strasbourg

# Experience -



## **Research scientist** — 7 years

2023-University of Strasbourg (FR)

- University of Groningen (NL) - 39 peer-reviewed papers, 9 code repositories, 5 data catalogs, 60+ talks
- Modelling large astronomical datasets with machine learning techniques
- Analysis of terabytes of data with Bayesian modelling
- PCA, deep NNs, image processing, VAEs, reinforcement learning
- 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

## **Ph.D. researcher** — 3 vears

2016-2012

2016

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 <u>deep learning blog</u>, 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-Ph.D. in Astrophysics — University of Bologna (IT) 2012 Thesis: "On the luminous and dark matter distribution in early-type galaxies" 2012-M.Sc. in Astrophysics — University of Bologna (IT) 2010 Grade: 110/110 cum laude

2010-B.Sc. in Astrophysics — University of Bologna (IT) 2007 Grade: 110/110 cum laude

-Funding my Research – 😩



### Grants awarded:

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

#### Computing & Telescope time awarded:

- 200 khr of computing time at CINECA HPC facilities
- 125 hr of observing time at the most competitive telescopes in the world

## Honours & Prizes —(2)



- ISSNAF INAF prize funding an internship at STScl, 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