

Curriculum vitae

Laura Leuzzi

PERSONAL INFORMATION

Full name: Laura Leuzzi

Date of birth: 06/07/1996

Nationality: Italian

Address: Via Jacopo della Quercia 18, 40128, Bologna (BO), Italy

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EDUCATION

PhD in Astrophysics

University of Bologna, Bologna, Italy

Nov. 2021 - present

Thesis: *Machine Learning Tools for Weak and Strong Lensing analysis by Galaxy Clusters: Paving the Way to the ESA-Euclid Mission*

Master's degree in Astrophysics and Cosmology

University of Bologna, Bologna, Italy

Sept. 2018 - March 2021

Main subjects: Cosmology, Physics of Galaxies and Galaxy Clusters, Stellar Evolution

Thesis: *Characterization of Convolutional Neural Networks for the identification of Galaxy-Galaxy Strong Lensing events*

Final mark: 110/110 cum laude

Bachelor's degree in Astronomy

University of Bologna, Bologna, Italy

Sept. 2015 - Sept. 2018

Main subjects: Physics, Mathematics and Algebra, Informatics, Astronomy

Thesis: *Emissione di sincrotrone e applicazioni astrofisiche*

Final mark: 110/110 cum laude

TRAINING COURSES

University course on educational methods (24 CFUs)

University of Bologna, Bologna, Italy

Jan. 2020 - July 2020

Main subjects: Psychology, Anthropology, Educational Methods

TEACHING ACTIVITY

Academic Tutor

University of Bologna, Bologna, Italy

A.Y. 2021-2022

Course: Physical Experimentations 2

LANGUAGES

First language: Italian

Other Languages: English - IELTS Academic 8.0 (C1 Level), 24/10/2020

Reading	Writing	Listening	Speaking
9.0	6.5	8.5	8.0

DIGITAL SKILLS

- Good knowledge of **Windows** (XP, Vista, 7, 10) and **Linux** (Ubuntu) operating systems;
- **Programming languages:** I acquired advanced competence of programming in Python in several courses and while working on my Master thesis project. I learnt to work with several libraries for data analysis and visualization, such as numpy, astropy, pandas, scipy, seaborn, matplotlib and I also gained experience with Machine Learning libraries, i.e. TensorFlow, Keras and scikit-learn. During my Bachelor's degree courses I also acquired a basic knowledge of programming in FORTRAN90 and RStudio. Experienced in L^AT_EX;
- **Programs:** AIPS, IRAF, SAOImageDS9, Xspec.

CONTRIBUTED TALKS

- International Conference on Machine Learning for Astrophysics, 30th May - 1st June 2022, Catania, Italy (in person).
- Euclid Strong Lensing Meeting, 27th - 29th July, Leiden, Netherlands (online).
- Conference "UniVersum IV – Trento 2023. Tracing a communal path for the Italian Cosmology community", 1st - 3rd February 2023, Trento, Italy (in person).
- Euclid Strong Lensing Meeting, 12th - 14th February, Bologna, Italy (in person).

PUBLICATIONS

- **Leuzzi, L.**, Meneghetti, M., Angora, G., Metcalf, R. B., Moscardini, L., Rosati, P.: *Characterization of Convolutional Neural Networks for the identification of Galaxy-Galaxy Strong Lensing events*, Astronomy and Astrophysics, 681, A68.
- Gentile, F., Tortora, C., Covone, G. et al. (including **Leuzzi, L.**): *LeMoN: Lens Modelling with Neural networks – I. Automated modelling of strong gravitational lenses with Bayesian Neural Networks*, Monthly Notices of the Royal Astronomical Society, 522, 5442–5455.

OTHER INFORMATION

Awards: Winner of the VI edition of the annual *Premio Stefano Magini* for the best Master's degree thesis in Astrophysics in Italy (2021).

Interests: Machine Learning, Astrophysics and Cosmology, Computer Science, Psychology, Educational Methods, Anthropology, Climate Science, Literature.