

Malavika Vijayendra Vasist

PhD student at University of Liège

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OBJECTIVE

Using Data Science techniques in Astronomy and Observational Astronomy.

RESEARCH INTEREST

Adapting Machine Learning tools to efficiently characterize exoplanets.

EDUCATIONAL QUALIFICATION

PhD 2019- present	PhD at University of Liège
September 2017- July 2019	Masters in Astronomy and Data Science
October 2016- March 2017	Interned at the Indian Institute of Astrophysics (IIA).
August 2012- May 2016	Bachelor of Electrical and Electronics Engineering from BMS College of Engineering (BMSCE), Bangalore. Affiliated to Visveswararajah Technological University (VTU), Belgaum. (GPA- 9.0/10.0)

SKILLS

- Python and Matlab.
- Tensor flow, keras and PyTorch modules in python for Deep Learning applications.
- SQLite
- Fluent in English, Kannada(native) and Hindi.

PROJECTS

Masters

- 1. Masters Thesis 1:** The relation between galaxy morphology and merger history in the EAGLE simulations. Under the supervision of Dr.J.Schaye and Dr C.Corraea, Leiden University.
- 2. Deep Learning course project:** Predicting Orbital Elements of Planetary Sytems in Star Clusters using Deep Neural Networks. Under the supervision of Dr. M.Cai and Dr S.P.Zwart, Leiden University..

3. **Master Thesis 2 :**

Using Deep Learning to predict the properties of galaxy major mergers in EAGLE simulations. Under the supervision of Dr. M. Cai at Leiden University.

Internship at IIA

1) **Project:**

Calculating the core prominence of the AGNs in the MOJAVE sample from the core radio emission observations of the VLA(Very Large Array) and the total radio emission observations of the UMRAO(University of Michigan Radio Observatory). Under the supervision of Dr. P.Shastri, Indian Institute of Astro physics (IIA).

2) **Proposal to ASTROSAT:**

As part of the team working with Dr.Prajval Shastri, I assisted in submitting a proposal to the proposal-driven mission ASTROSAT, ISRO(Indian Space Research Organization).

Undergraduate

- 1) **Undergraduate Thesis :** Using the 3 point MPPT (Maximum Power Point Tracking) technique to charge Photo Voltaic(PV) cells. The simulation was carried out in Matlab Simulink and it was implemented in hardware.

www.academia.edu/27200545/Three-Point_MPPT_technique_for_photovoltaic_systems

Other Projects

Plotting Pulsar Signatures- As a part of the engineering curriculum's Digital Signal Processing course, demonstrated the procedure for plotting Pulsar Signatures in MATLAB.

Building a simple Radio Telescope

<https://alternateuniverse2015.wordpress.com/2016/09/06/radio-telescope-to-monitor-the-sun/>

Extra Academic Activities

- Participated in 'AstroHackweek 2018 and 2020 August' - Machine Learning and Data Science workshop.
- Attended the 3 year REAP (Research Enhancement Advancement Program) in the Jawaharlal Nehru Planetarium, Bangalore. This programme constituted weekend classes on courses -

First year- Classical Mechanics, Astronomy, Mathematical Physics, Lab
(Grade **A**)

Second year- Quantum Mechanics 1, Electrodynamics, Interstellar Matter, Lab
(Grade **A+**)

Third year- Internship at IIA under the supervision of Dr. Prajval Shastri.

DATE: 30th October 2020
PLACE: Liège, Belgium

[Malavika V Vasist]

