



# Renan Alves de Oliveira

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- 🐙 GitHub

## WORK AND RESEARCH EXPERIENCE

### Graduate Research Student

August 2018 – Present

Federal University of Espírito Santo

Vitória, ES

- Developed a database of gravitational-lensing systems of many astrophysical wide-field surveys.
- Assisted students with Python and code optimization on their research projects.
- Admin of a high-performance computer cluster used for scientific computations.

### Visiting Researcher

November 2019 – May 2020

Flatiron Institute, Simons Foundation

New York, NY

- Development of neural network capable of emulating faster and efficiently the evolution of dark matter particles in the universe.
- Work accepted on the Machine Learning for Physics Sciences workshop at the 2020 Conference on Neural Information Processing Systems.

### Master Researcher Student

August 2016 – July 2018

Londrina State University

Londrina, PR

- Made usage of statistical analyses to obtain an estimate of the isotropy of the universe.
- Analyzed data from the Cosmic Microwave Background Radiation obtained by the Planck space observatory.
- Development of software written in Python called polyMV, responsible to convert multipolar coefficients into multipole vectors.

### Intern

May 2014 – July 2014

Hydrologic Research Center

Del Mar, CA

- Analyzed and modeled numerically the soil stability responsible for landslides using Newtonian mechanics.

### Undergraduate Researcher Student

March 2011 – February 2016

Londrina State University

Londrina, PR

- Research development obtaining problem-solving skills such responsible to simulate data from basic assumptions and comparing to real-world observations using statistical analysis and numerical calculations.
- Participation in workshops and events presenting the results obtained.

## SKILLS

Python 2/3	●●●●	Database	●●●○	Git/Github	●●●○
Statistical Analysis	●●●●	Code Optimization	●●●○	English	●●●●
Code Review	●●●○	Machine Learning	●●●○	Problem-solving	●●●●
Data Visualization	●●●●	Dashboarding	●●○○	Flexibility	●●●●

## EDUCATION

### PhD in Astrophysics | *Gravitational Lensing and AI*

August 2018 – *Expected* July 2022

Federal University of Espírito Santo

Vitória-ES, Brazil

### Master's in Physics | *Computational Cosmology*

August 2016 – July 2018

Londrina State University

Londrina-PR, Brazil

### Applied Physics | *Science Without Borders Program*

July 2013 – May 2014

California State University, San Marcos

San Marcos-CA, U.S.A.

### Bachelor's in Physics

March 2010 – March 2016

Londrina State University

Londrina-PR, Brazil