# José Vinícius de Miranda Cardoso

keywords: machine learning, time series, optimization, software development

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## Education

*PhD Student in Electronic and Computer Engineering* — *Fall 2019 – Current*
**The Hong Kong University of Science and Technology**, Hong Kong

*B.Eng. in Electrical Engineering* — *2019*
**Federal University of Campina Grande**, Brazil

*Nanodegree in Machine Learning Engineering* — *2018*
*Nanodegree in Artificial Intelligence*
**Udacity**

*Visiting Student – Electrical Engineering and Computer Science* — *Fall 2014 – Spring 2015*
**The Catholic University of America**, USA
**University of Maryland at College Park**, USA
Brazil Scientific Mobility Program, Fully funded scholarship recipient

*Technical Degree in Informatics* — *2010*
**Federal Institute of Education, Science and Technology of Paraíba**, Brazil

## Professional Experience

*Machine Learning Mentor* — *May 2019 – Aug 2019*
**Udacity**, Remote

*Scientific Software Engineering Intern* — *Mar 2017 – Feb 2018*
**NASA Ames Research Center**, Silicon Valley, CA, USA
Kepler/K2 Guest Observer Office

*Google Summer of Code Student* — *Summer 2016*
**The AstroPy Project**
Project title: Point spread function photometry for fitting overlapping stars simultaneously

*Undergraduate Teaching Assistant* — *Spring 2015*
*Probability and Statistics for Electrical Engineering and Computer Science*
**Federal University of Campina Grande**, Brazil

*Undergraduate Research Assistant* — *Fall 2015 – Fall 2016*
**Institute for Advanced Studies in Communications**, Brazil

*Undergraduate Guest Researcher* — *Summer 2015*
**National Institute of Standards and Technology**, USA
Center for Nanoscale Science and Technology
Nanofabrication Research Group

## Volunteering Experience

*Deputy AstroPy GSoC Coordinator* *Fall 2019 – Current*
Deputy coordinator for the AstroPy project in the Google Summer of Code program

*Google Summer of Code Organization Administrator* *Summer 2019 – Current*
Admin for the OpenAstronomy organization during GSoC 2019

*Google Summer of Code Mentor for the AstroPy Project* *Summer 2018*
Project title: Develop astropy tutorials on how to fit data

## Project Proposals

**NASA Transiting Exoplanet Survey Satellite Proposal** *2019*
Uniform Light Curves Across the Entire Sky from TESS FFIs with ELEANOR
Principal Investigators: Dr. Benjamin Montet (University of Chicago) and Dr. Jacob Bean (University of Chicago)
Co-Investigators: Adina Feinstein (University of Chicago), Dr. Daniel Foreman-Mackey (Flatiron), Dr. Jessie Christiansen (IPAC/Caltech), Dr. Rodrigo Luger (U. of Washington), Dr. Daniel Scolnic (U. of Chicago), and Dr. Christina Hedges (NASA Ames), Nicholas Saunders (University of Hawaii), José Vinícius de Miranda Cardoso (Universidade Federal de Campina Grande)

**NASA Transiting Exoplanet Survey Satellite Proposal** *2018*
Performing The Most Comprehensive Exoplanet Survey Of The Southern Sky With TESS Full Frame Images
Principal Investigator: Dr. Benjamin Montet (University of Chicago)
Co-Investigators: Dr. Daniel Foreman-Mackey (Flatiron), Dr. Jessie Christiansen (IPAC/Caltech), Dr. Rodrigo Luger (U. of Washington), Dr. Daniel Scolnic (U. of Chicago), and Dr. Christina Hedges (NASA Ames)
Undergraduate students: Nicholas Saunders (U. of Washington) and José Vinícius de Miranda Cardoso (Universidade Federal de Campina Grande)

## Selected Publications

1. Kumar, S., Ying, J., **Cardoso, J. V. M.**, Palomar, D. P. Structured graph learning via Laplacian spectral constraints. Advances in Neural Information Processing Systems (NeurIPS), Dec. 2019.
2. Kumar, S., Ying, J., **Cardoso, J. V. M.**, Palomar, D. P. A unified framework for structured graph learning via spectral constraints. Arxiv: `https://arxiv.org/pdf/1904.09792.pdf`, Apr. 2019.
3. Davanco, M., I., Liu, J., Sapienza, L., Zhang, C. Z., **Cardoso, J. V. M.**, Verma, V., Mirin, R., Nam, S. W, Srinivasan, K. Heterogeneous integration for on-chip quantum photonic circuits with single quantum dot devices. *Nature Communications*, 2017.
4. **Cardoso, J. V. M.**, *et. al.* An approximate exponentiated Weibull envelope-phase distribution. *IEEE International Symposium on Antennas and Propagation/USNC-URSI National Radio Science Meeting*, Farjado, Puerto Rico, 2016. ⋆⋆***Travel grant recipient***⋆⋆.

For a complete list of my publications, please refer to `https://mirca.github.io/publications`.

## Awards

1. Selected, with full travel funding, to the workshop *Preparing for TESS*, New York City, USA, 2018
2. Selected to the workshop *Python in Astronomy*, Leiden, The Netherlands, 2017
3. Selected, with full travel funding, to the São Paulo School of Advanced Science on Nanophotonics, São Paulo, Brazil, 2016
4. Travel Grant Recipient, IEEE Antennas and Propagation Symposium, Puerto Rico, 2016

5. Young Author Recognition Award, International Telecommunication Union, ITU Kaleidoscope 2015
6. Young Author Recognition Award, International Telecommunication Union, ITU Kaleidoscope 2014
7. The paper "SQUALES: A QT-based Application for Full-Reference Objective Stereoscopic Video Quality Measurement" was one of the six papers nominated for Best Paper Award at ITU Kaleidoscope 2014

## Competencies

**Coding:** Python (numpy, scipy, pandas, scikit-learn), R, git/GitHub, TensorFlow, C/C++, Unix shell, MATLAB

**Courses:** Convex Optimization, Stochastic Processes, Information Theory, Random Signal Theory, Estimation and Detection Theory

**Languages:** Native Portuguese, Fluent English

## Additional Information

- Member of the AstroPy software development community
- Participated in the IEEEXtreme 24-Hours Programming Competition in 2013, 2014, 2015, and 2016
- Student of the week on the IEEE Students Facebook webpage
- Participated at the *PSF Photometry and Software Workshop*, Space Telescope Science Institute, Baltimore, 2017
- Attended NASA Ames Machine Learning Workshop, 2017