

# José Vinícius de Miranda Cardoso

Undergraduate Student  
Federal University of Campina Grande, Brazil  
Department of Electrical Engineering  
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<http://mirca.github.io>

## Education

*Undergraduate in progress in Electrical Engineering* 2011 –  
**Federal University of Campina Grande, Brazil**  
Advisor: Marcelo Sampaio de Alencar

*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  
Advisors: Duilia F. de Mello and Jandro L. Abot

*Technical Degree in Informatics* 2007 – 2010  
**Federal Institute of Education, Science and Technology of Paraíba, Brazil**  
Advisor: Carlos Danilo Miranda Regis

## Professional Experience

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

*Software Developer at Google Summer of Code* Summer 2016  
**Google Summer of Code – The AstroPy Project**  
Mentors: Erik Tollerud, Hans Moritz Günther, and Brigitta Sipocz

*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**  
Mentor: Marcelo Sampaio Alencar

*Undergraduate Guest Researcher* Summer 2015  
**National Institute of Standards and Technology, USA**  
Center for Nanoscale Science and Technology  
Nanofabrication Research Group  
Mentor: Marcelo Ishihara Davanço

*Undergraduate Research Assistant* 2011 – 2014  
**Institute for Advanced Studies in Communications, Brazil**  
Mentor: Marcelo Sampaio Alencar

## Projects

### **NASA Transiting Exoplanet Survey Satellite (TESS) Proposal**

Performing The Most Comprehensive Exoplanet Survey Of The Southern Sky With TESS Full Frame Images

Principal Investigator: Benjamin Montet

2018

### **Google Summer of Code-The AstroPy Project**

Point spread function photometry for fitting overlapping stars simultaneously

Summer 2016

### **National Institute of Science and Technology, USA**

Parameter estimation for photoactivated localization microscopy

Summer 2015

### **Institute of Advanced Studies in Communications, Brazil**

Statistical characterization of free space optical channels

2016 – 2016

Signal detection in generalized fading channels

2015 – 2016

Multiplatform software for objective stereoscopic image and video quality assessment

2013 – 2014

Stereoscopic video quality estimation using objective algorithms

2012 – 2013

Development of a novel objective algorithm for video quality assessment

2011 – 2012

## Publications

Please, refer to <https://mirca.github.io/publications>

## Competencies

**Software:** Python (numpy, scipy, pandas, scikit-learn), git/GitHub, C/C++, Unix shell

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

**Languages:** Native Portuguese, Fluent English

## 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

## Additional Information

- Member of the AstroPy software development community.
- Participated in the IEEEExtreme 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.