

José Vinícius de Miranda Cardoso

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

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Education

PhD Student in Electronic and Computer Engineering
The Hong Kong University of Science and Technology, Hong Kong
Topic: Time-varying graphical models for applied finance
GPA: 4.0/4.0

Fall 2019 – Spring 2023 (expected)

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

Fall 2014 – Spring 2015

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

2011 – 2019

Professional Experience

Teaching Assistant
The Hong Kong University of Science and Technology, Hong Kong
Courses: Data-driven Portfolio Optimization

Feb 2020 – Current

Machine Learning Mentor
Udacity, Remote
Guided students from fundamental concepts of linear algebra to state-of-the-art convolutional neural nets.

May 2019 – Aug 2019

Scientific Software Engineering Intern
NASA Ames Research Center, Silicon Valley, CA, USA
Kepler/K2 Guest Observer Office
Developed open source Python code to assist scientists get the most out of NASA Kepler/K2 time series data.

Mar 2017 – Feb 2018

Google Summer of Code Student
The AstroPy Project
Project title: Point spread function photometry for fitting overlapping stars simultaneously
Developed open source Python code to fit Gaussian mixture models to stellar images.

Summer 2016

Undergraduate Guest Researcher
National Institute of Standards and Technology, USA
Center for Nanoscale Science and Technology
Nanofabrication Research Group
Developed MATLAB code to automatically localize nanoemitters in optical microscopy images.

Summer 2015

Volunteering Experience

Deputy AstroPy GSoC Coordinator
Deputy coordinator for the AstroPy project in the Google Summer of Code program
Organizing the AstroPy efforts towards participating in the Google Summer of Code.

Fall 2019 – Current

Google Summer of Code Organization Administrator
Admin for the OpenAstronomy organization during GSoC 2019
Managing the OpenAstronomy efforts towards participating in the Google Summer of Code.

Summer 2019 – Current

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)

Selected Publications

1. **Cardoso, JVM**, Palomar, DP. Learning undirected graphs in financial markets, *arXiv preprint* arXiv:2005.09958, May, 2020.
2. Ying, J, **Cardoso, JVM**, Palomar, DP. Does the ℓ_1 -norm learn a sparse graph under Laplacian constrained graphical models?, *arXiv preprint* arXiv:2006.14925, June, 2020.
3. Kumar, S, Ying, J, **Cardoso, JVM**, Palomar, DP. A unified framework for structured graph learning via spectral constraints. *Journal of Machine Learning Research (JMLR)*, Jan. 2020.
4. Kumar, S, Ying, J, **Cardoso, JVM**, Palomar, DP. Structured graph learning via Laplacian spectral constraints. *Advances in Neural Information Processing Systems (NeurIPS)*, Dec. 2019. Acceptance rate: 21.6%.
5. Kumar, S, Ying, J, **Cardoso, JVM**, Palomar, DP. Bipartite structured Gaussian graphical modeling via adjacency spectral priors. *53rd Asilomar Conference on Signals, Systems, and Computers*, Dec. 2019.
6. Feinstein, AD, *et. al.* eleanor: An open-source tool for extracting light curves from the TESS Full-Frame Images. *Publications of the Astronomical Society of the Pacific*, 2019.
7. Virtanen, P, *et. al.* SciPy 1.0: fundamental algorithms for scientific computing in Python. *Nature Methods* 17, 2020.
8. **Cardoso, JVM**, *et. al.* Lightkurve: Kepler and TESS time series analysis in Python. *Astrophysics Source Code Library*, 2018.
9. Price-Whelan, AM, *et. al.* The Astropy Project: Building an open-science project and status of the v2.0 Core Package, *The Astronomical Journal* 156, 2018.
10. Davanco, MI, Liu, J, Sapienza, L, Zhang, CZ, **Cardoso, JVM**, Verma, V, Mirin, R, Nam, SW, Srinivasan, K. Heterogeneous integration for on-chip quantum photonic circuits with single quantum dot devices. *Nature Communications*, 2017.
11. **Cardoso, JVM**, *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 my Google Scholar profile <https://scholar.google.com/citations?user=ilvNpCoAAAAJ&hl=en>.

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 (U\$ 2000,00) by the Institute of Electronic and Electrical Engineers (IEEE) to attend the IEEE APS Meeting 2016
5. Young Author Recognition Award, International Telecommunication Union, ITU Kaleidoscope 2015