JAMILA TAAKI

I am a PhD student at University of Illinois Urbana-Champaign working on problems at the intersection of data science and exoplanets.
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EDUCATION

PhD candidate | **Electrical and Computer Engineering**   2017 -
University of Illinois Urbana-Champaign
Advisors: Prof. Farzad Kamalabadi and Prof. Athol Kemball

M.Sc. (UK equivalent of MS+BS) | **Astrophysics**   2011 – 2015
 Royal Holloway University of London
Advisors: Prof. Glen Cowan and Prof. Stewart Boogert

PUBLICATIONS

"Robust Inference of Sensor-Spatially Correlated Systematic Noise in Kepler Lightcurves"   2023
Taaki, Kamalabadi, Kemball | *in preparation for the Astronomical Journal*

"A Search for Exoplanet Candidates in TESS Short Cadence Lightcurves with Bayesian Detection" 2023
Taaki, Kemball, Kamalabadi | *in preparation for the Astronomical Journal*

"Bayesian Methods for Joint Exoplanet Transit Detection and Systematic Noise Characterization" 2020
Taaki, Kamalabadi, Kemball | *The Astronomical Journal* | Vol. 159, No. 6

RESEARCH PROJECTS

Fourier optical propagation modelling of external occulters   2021
Investigating computational/analytic methods for fast optical propagation of star-planet scenes   (ongoing)

TESS exoplanet search with high performance computing (250k node hour allocation)   2020
Apply prior joint detection work on full year of TESS short-cadence photometry   (ongoing)

Data-driven and learning approaches to solar magnetic field extrapolation   2018
Simulations and methods on incorporating data-driven constraints into solar magnetic field extrapolations

Internship: Mars Climate Lab (the Open University)   2015
Advised by Prof. Stephen Lewis, simulated entry landing and descent profiles for landers

TECHNICAL SKILLS

Programming: Python (NumPy, SciPy, Sklearn, TensorFlow, Matplotlib, Pandas, Astropy), Bluewaters/HPC, CUDA, C/C++, Bash, Github, IDL
Mathematics: Detection and estimation theory, advanced linear algebra, vector space signal processing, learning theory, machine learning, computational inference, Fourier optics

OTHER

Intersango bitcoin exchange: Graphics/web development and scripting   2011
Bitcoin London conference: Event organizer   2012