Alex Infanger

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Education

Stanford University. (09/2016-present)
PhD candidate in Computational and Mathematical Engineering.
(Entered Fall 2016).

Current Research: Simulation & Analysis of Non-Stationary Markov Chains.
Coursework: Deep learning, Stochastic Modeling,
Operations Research, Monte Carlo, Numerical Linear Algebra,
Discrete Math & Algorithms, Optimization, Reinforcement Learning.

University of California, Santa Cruz. (08/2012-09/2016)
Summa cum laude, Phi Beta Kappa.
BS in Physics, highest honors.
Senior Thesis, *The Existence of Terrestrial Gamma-Ray Flashes that Paralyze RHESSI*, awarded the Dean's and Chancellor's Awards.
Minor in Mathematics.

Research & Work

Adobe Systems Incorporated (07/2018-09/2018)
Data Science Intern

- Estimated Markov model for Creative Cloud customers in PySpark and Pandas.

Infanger Investment Technology (07/2017-09/2017)
Quantitative Analyst Intern

- Optimized sparse regression code for a machine learning based portfolio.
- Automatized fund analyses using the Bloomberg API and VBA.

Santa Cruz Institute for Particle Physics (06/2013-09/2016)
Research Assistant

- Discovered a new class of Terrestrial Gamma-ray Flashes (TGFs) in the Reuven Ramaty High Energy Solar Spectroscopic Imager (RHESSI) data set.
- Performed Monte Carlo analyses with lightning location data in order to estimate the probability of a TGF candidate coming from background processes.

Lawrence Livermore National Laboratory (06/2014-08/2014)
Research Assistant

- Modeled response of Radiation Portal Monitors and other instruments to TGFs.

Honors

- Ranked 1/127 in data structures course (C and Java).
- Selected to attend IPAM Mean Field Games Summer School, June 2018.
- Session Chair: Instrumentation and Data Analysis, Conference for Thunderstorms and Energetic Particle Acceleration (TEPA) 2014. Yerevan, Armenia.
- Ron Ruby Award: $2540.00 award to attend TEPA 2014 Conference.

Publications

"The rarity of terrestrial gamma-ray flashes II: *RHESSI* stacking analysis"
D. M. Smith, P. Buzbee, N. A. Kelley, A. Infanger, R. H. Holzworth, J.R. Dwyer. Journal of Geophysical Research: Atmospheres (2016).

Programming

Python, Tensorflow, Keras, Julia, PySpark, Pandas, SQL, Matlab.