Kevin Charles Schlaufman PhD

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Individual Contributor Experience

Carnegie-Princeton Fellow and Data Scientist, Carnegie Observatories and Princeton University 2015-Present
Kavli Fellow and Data Scientist, Kavli Institute for Astrophysics and Space Research, MIT 2012-2015
Designed new supervised learning algorithm to identify ancient stars, saving the community >$2,000,000
Designed new algorithm to measure population average stellar mass, previously thought to be impossible
Senior Data Scientist, LinkedIn 2011-2012
Improved subscriber acquisition and retention through collaborative effort with premium subscription and business analytics teams. Analyzed impact of possible new premium subscription features. Drove monetization and promotion reporting analytics that provided actionable insight. Phone screened and interviewed 58 candidates.
NSF Graduate Research Fellow, Astronomy and Astrophysics Department, UC Santa Cruz 2006-2011
Created new technique to identify spin-orbit misalignment, saving the community >$1,000,000
Created new technique to identify a connection between stellar composition and exoplanets, saving >$100,000
Designed unsupervised learning algorithm to find the debris of galactic collisions in our own Milky Way Galaxy
Graduate Research Assistant, KIPAC, Stanford University 2004-2006
Modeled the formation of a star using an astrophysical hydrodynamics code
Summer Intern, Lawrence Livermore National Laboratory 2004
Modeled the effects of atmospheric turbulence on ground-based astronomical imaging

Management Experience

Kavli Fellow and Data Scientist, Kavli Institute for Astrophysics and Space Research, MIT 2013
Mentored small team to follow-up on my individual discoveries

Selected Skills

Data science: general analytics, dashboarding, reporting, predictive modeling, social network analysis
Computational statistics: data analysis, data mining, machine learning, Monte Carlo Simulations, multivariate methods, spatial statistics, time series, very-large databases, visualization
Mathematical statistics: confidence intervals, inference, linear regression, logistic regression, maximum likelihood, model selection, nonlinear regression, tests of hypotheses
Bayesian statistics: Markov Chain Monte Carlo, Bayesian model diagnostics, Bayesian model selection
Applied mathematics: ODEs, PDEs, and optimization
Computing: intermediate object-oriented programming and scripting (python), SQL and hadoop/hive/pig; advanced R and MATLAB
Language: native English and conversational German

Education and Certifications

UC Santa Cruz, MS and PhD in Astronomy and Astrophysics · GPA: 4.00 2006-2011
Stanford University, MS in Scientific Computing and Computational Mathematics · GPA: 3.67 2004-2006
Statistics Concentration
Penn State, BS in Mathematics and BS in Astronomy and Astrophysics · GPA: 3.94 2000-2004
Honors and High Distinction plus minor in Physics
Coursera, edX, and Stanford Online Certifications: 2012-Present
Data science, social network analysis, python programming, machine learning, big data in education, databases, mining massive datasets, computational investing

Selected Honors and Awards

Carnegie-Princeton Fellowship, Carnegie Observatories and Princeton University 2015-2019
Awarded $268,000 grant
Infinite Kilometer Award, School of Science, MIT 2013
Recognized for routinely working beyond my assigned responsibilities and for exceptional contributions to the community
Kavli Fellowship, Kavli Institute for Astrophysics and Space Science, MIT 2012-2015
Awarded $250,000 grant

Chancellor's Dissertation-Year Fellowship, Graduate Division, UC Santa Cruz 2010-2011
Recognized as part of the top 10% of my PhD graduating class and awarded $35,000 grant
Graduate Research Fellowship, National Science Foundation 2007-2010
Recognized as part of the top 5% of all science and engineering PhD students nationwide and awarded $121,500 grant
Whitford Prize, Astronomy and Astrophysics Department, UC Santa Cruz 2008
Recognized as outstanding overall student in the first two years of the PhD program
Marshall Award, Astronomy and Astrophysics Department, Penn State 2004
Recognized as the top undergraduate major in my graduating class
Evan Johnson Award, Mathematics Department, Penn State 2003 & 2004
Recognized as one of the top students in the mathematics major
Kermit C. Anderson Scholarship, Mathematics Department, Penn State 2003
Recognized as one of the top students in the mathematics major
Evan Pugh Scholar Award, Penn State 2003
Recognized as top 0.5% percent of graduating class
Elected to $\phi\beta\kappa$, Penn State 2003

Selected Volunteer and Leadership Activities

Co-Organizer, MIT MKI IAP Activities 2014
Co-Organizer, MIT MKI Postdoc Symposium 2013
Lecturer, MIT MKI IAP Lecture Series 2013
Referee, Astrophysical Journal, A&A, NASA, NSF, and Science Magazine 2011-Present
Admissions Committee, Astronomy and Astrophysics Department, UC Santa Cruz 2011
Reviewed 176 applications and interviewed 30 applicants
Science Speaker, Lick Observatory 2008-2011
Delivered two hour-long popular talks about recent developments in astronomy and astrophysics
Graduate Representative, Academic Senate Committee on Planning and Budget, UC Santa Cruz 2008-2010
Monitored all aspects of university budget
Committee Chair, Graduate Student Health Insurance Committee, UC Santa Cruz 2008-2009
Lead committee efforts to improve graduate student health care

Selected Peer-Reviewed First-Author Publications

9. **Schlaufman, K.C.** & Casey, A.R. 2014, "The Best and Brightest Metal-poor Stars", *Astrophysical Journal*, 797, 13
8. **Schlaufman, K.C.**, 2014, "Tests of In-Situ Formation Scenarios for Compact Multiplanet Systems", *Astrophysical Journal*, 790, 91
7. **Schlaufman, K.C.**, & Winn, J.N. 2013, "Evidence for the Tidal Destruction of Hot Jupiters by Subgiant Stars", *Astrophysical Journal*, 772, 143
6. **Schlaufman, K.C.**, Rockosi, C.M., Lee, Y.S., Beers, T.C., Allende Prieto, C., Rashkov, V., Madau, P., & Bizyaev, D. 2012, "Insight Into the Formation of the Milky Way Through Cold Halo Substructure. III. Statistical Chemical Tagging in the Smooth Halo", *Astrophysical Journal*, 749, 77
5. **Schlaufman, K.C.**, & Laughlin, G. 2011, "*Kepler* Exoplanet Candidate Host Stars Are Preferentially Metal Rich", *Astrophysical Journal*, 738, 177
4. **Schlaufman, K.C.**, Rockosi, C.M., Lee, Y.S., Beers, T.C., & Allende Prieto, C. 2011, "Insight Into the Formation of the Milky Way Through Cold Halo Substructure. II. The Elemental Abundances of ECHOS", *Astrophysical Journal*, 734, 49
3. **Schlaufman, K.C.**, Lin, D.N.C., & Ida, S. 2010, "A Population of Very Hot Super-Earths in Multiple-Planet Systems Should be Uncovered by *Kepler*", *Astrophysical Journal Letters*, 724, L53
2. **Schlaufman, K.C.**, & Laughlin, G. 2010, "A Physically-Motivated Photometric Calibration of M Dwarf Metallicity", *Astronomy & Astrophysics*, 519, A105
1. **Schlaufman, K.C.**, 2010, "Evidence of Possible Spin-Orbit Misalignment Along the Line of Sight in Transiting Exoplanet Systems", *Astrophysical Journal*, 719, 602