

Alan M. Meert

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CONTACT INFORMATION	David Rittenhouse Laboratory Rm. 4N11 Department of Physics and Astronomy University of Pennsylvania Philadelphia, PA 19104 USA	(574) 360-4506 ameert@sas.upenn.edu	
EDUCATION	Ph.D. candidate in Physics and Astronomy , University of Pennsylvania, 2011-Present <i>Advisor: Mariangela Bernardi</i> M.S. in Physics and Astronomy , University of Pennsylvania, 2009-2011 <i>Advisors: Mariangela Bernardi & Masao Sako</i> B.S. Honors Physics , Purdue University, 2005-2009 <i>Advisor: John Peterson</i>		
PROFESSIONAL EXPERIENCE	The Data Incubator , New York, New York Data Science Fellow June 2014-Present <ul style="list-style-type: none">• Studied data collection, supervised/unsupervised machine learning, and distributed computing• Applied analysis techniques to predict next day price and volume for oil futures• Used a database of 150 million historical events to improve predictions University of Pennsylvania , Philadelphia, Pennsylvania Graduate Research Assistant May 2009-Present <ul style="list-style-type: none">• Tested supervised Bayesian and template-based redshift estimation on 1,000,000 galaxies• Analyzed 670,000 galaxies using custom pipeline and 24-node computer cluster• Developed identified features and quality metrics to reliably identify bad results• Demonstrated that previous analysis was biased by up to 100% in size and mass Purdue University , West Lafayette, Indiana Undergraduate Research Assistant January 2007-May 2009 <ul style="list-style-type: none">• Developed telescope simulation pipeline utilizing a distributed computing network• Improved simulation speed 100-fold compared to previous single-processor simulation strategy• Collected, cleaned, and unified data from multiple independent sources		
TECHNICAL SKILLS	<ul style="list-style-type: none">• Analysis Techniques: linear and non-linear minimization, Monte-carlo simulations, image analysis, supervised learning techniques for classification and regression• Languages: Python (including NumPy, SciPy, Matplotlib), MySQL, C, Basic Linux shell scripting• Applications: L^AT_EX, Microsoft Office Suite• Operating Systems: Unix/Linux, Windows, Mac		
LEADERSHIP	<ul style="list-style-type: none">• Astronomy Journal Club Organizer (2012-2014)• Office Manager for Purdue Band Department Supply Office (2008-2009)		
COMMUNICATION	<ul style="list-style-type: none">• 2 first-author publications, 7 contributing-author publications; publication list available• Developed and checked textbook practice problems for <i>College Physics</i> by Freedman, Ruskell, Kesten, Tauck (2011-2013)		
OUTREACH	<ul style="list-style-type: none">• Taught over 10 Physics Laboratory courses to both science and non-science students• Public Telescope Outreach Volunteer (2009-2014) describing physical processes of the solar system		