Robert Drew Wooster III

Mathematician and Data Scientist with 10+ years academic and industry experience

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GitHub Page/Portfolio: https://bobwooster.github.io

Employment

- Sep 2020 - present *Senior Data Scientist*, Ancera LLC
  - Work with scientists by performing statistical analyses in developing assays that meet AOAC and other regulatory guidelines
  - Build machine learning models and interactive data applications with RShiny that allows users to gain insights from data in real time
  - Perform data analyses that help poultry growers monitor and manage animal health in order to raise healthier flocks with better yields
- Aug 2016 - present *Owner/Principal Data Science Consultant*, Analytix LLC, a data science and mathematical modeling consulting business
  - Develop interactive data visualization and user-customizable report applications in RShiny
  - Build machine learning algorithms and mathematical models of product performance to help the client improve manufacturing processes and reduce testing time and cost
  - Perform statistical analyses for assay development and method validation
- July 2017 - June 2019 *Visiting Professor*, Department of Mathematical Sciences, Central Connecticut State University, New Britain, CT
- July 2012 - June 2016 *Assistant Professor*, Department of Mathematics and Computer Science, College of Wooster, Wooster, OH
- July 2009 - June 2012 *Assistant Professor* (post-doc), Department of Mathematical Sciences, United States Military Academy, West Point, NY

Education

- *Ph.D. Mathematics*, University of Connecticut, May 2009

  Dissertation: *Evolution Systems of Measures for Non-autonomous Stochastic Differential Equations with Lévy Noise*, Advisor: Professor Maria Gordina.

  My research was in the field of probability theory and stochastic differential equations. Since stochastic differential involve randomness, they are used in a variety of applications including mathematical finance, biology, communications, and physics. My work involved proving the existence and uniqueness of so-called *evolution systems* of measures, an analog of steady-state or invariant measures, for non-autonomous equations. These systems of measures play a large part in understanding the properties of solutions and determine their long term behavior.
- *M.S. Mathematics*, University of Connecticut, December 2004
- *B.S. Natural Resources*, University of Connecticut, Spring 1999

Technical Skills

- Programming languages: R, Python, C++, Matlab, SQL, HTML
- Development environments: Git and GitHub, Bitbucket, RStudio, Anaconda, Atom, Microsoft Azure
- Software: Mac OSX, Linux, Windows, LaTeX, MS Office

Research interests

Data science, probability theory, Markov processes, Lévy processes, stochastic differential equations, applications of stochastic processes

Publications

- P. Pierce, R. Wooster, *Conquer the World with Markov Chains*, Math Horizons, April 2015.
- G. Nguyen, J. Kedia, R. Snyder, R.D. Pasteur, R. Wooster, *Sales Forecasting using Regression and Artificial Neural Networks*, Proceedings of Midstates Conference For Undergraduate Research in Computer Science and Mathematics 2013.
- B. Thirey, R. Wooster *The Touchy-Feely Integral: Using Manipulatives to Teach the Basic Properties of the Definite Integral*, PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, Vol. 23, Issue 7, Special Issue on Tactile Learning Activities, 2013, pp. 605-616.
- R. Wooster, *Evolution Systems of Measures for Non-autonomous Ornstein-Uhlenbeck Processes with Lévy Noise*, Communications on Stochastic Analysis, Vol. 5, No. 2, June 2011, pp. 353–370.
- R. Wooster, *Evolution Systems of Measures for Non-autonomous Stochastic Differential Equations with Lévy Noise*. Ph.D. Thesis, University of Connecticut, 2009. Advisor: Professor Maria Gordina.

Awards and Honors

- Nominated for Excellence in Teaching Award, Central Connecticut State University, 2018, 2019
- Commander's Award for Civilian Service, Department of the Army, West Point, 2012
- Travel support to research at University of Bielefeld, Germany, PI - Michael Röckner, June 2008
- Research support under NSF Grant DMS-0706784, PI - Maria Gordina, Summer 2007, Spring-Summer 2008
- Louis J. DeLuca Memorial Award for Outstanding Teaching Assistant, 2005
- Summer Predoctoral Fellowship, 2004