

Sean Chang

CONTACT INFORMATION	Ph.D. Candidate Department of Statistical Science Duke University, Box 90251 Durham, NC 27708-0251	<i>Citizenship:</i> U.S. Permanent Resident <i>Mobile:</i> (609) 375-8415 <i>Email:</i> sean.chang@duke.edu <i>Website:</i> https://stat.duke.edu/~sc268
EDUCATION	Ph.D. , Statistical Science; Duke University , Durham, NC Field: Bayesian Statistics. Advisor: Prof. Jim Berger 2011 - present	
	M.A. , Mathematics Duke University , Durham, NC Field: Probability. Qualifying exam committee: Prof. Richard Durrett 2011-2013	
	B.S. , Mathematics, National Taiwan University , Taipei, Taiwan 2006-2010	
EXPERTISE	Machine Learning, Bayesian Statistics, Data Mining, Map Reduce, Markov Chain Monte Carlo Python (NumPy, SciPy, Scikit-learn) C++, C, R, Matlab, SQL, Slang, SecDB, Git, \LaTeX , Linux	
WORK EXPERIENCE	<i>Summer Associate</i> , Goldman Sachs , London, UK July-Sep, 2014	
	<ul style="list-style-type: none"> Created and implemented new methods modeling cross currency swap basis using currency forward. This work is now utilized for daily risk management in Goldman Sachs. 	
	<i>Data Scientist Intern</i> , Verisk Analytics , San Francisco, CA May-July, 2014	
	<ul style="list-style-type: none"> Proposed a health care fraud detection algorithm based on reclassifying insurance providers' specialities using random forest. The reclassification algorithm improved the existing one by 10%. Visualized data and results with the data-driven JavaScript library <i>d3.js</i> and <i>impress.js</i> 	
	<i>Instructor</i> , Department of Mathematics, Duke University , Durham, NC Fall 2012	
RESEARCH AND PUBLICATIONS	<ul style="list-style-type: none"> Taught Single Variable Calculus and managed the work of teaching assistants. Received good course evaluations from students with overall score of 4.0/5.0. 	
	Department of Statistical Science, Duke University , Durham, NC	
	<ul style="list-style-type: none"> <i>Bayesian statistics</i>: Established Bayesian and Empirical Bayes procedures on false positive probability in the scenario of high dimensions multivariate normal distribution with arbitrary covariance dependence. (With J. Berger) "Comparison of Bayesian and frequentist multiplicity correction under a scenario of data dependence". Poster in the 2014 ISBA international meeting. Submitted to <i>the Annals of Statistics</i> 	
	<ul style="list-style-type: none"> (With J. Berger) "Asymptotic analysis of Bayesian model selection". In preparation. 	
	<ul style="list-style-type: none"> <i>Clinical trials</i>: Examined efficacy of HIV vaccines and invented conditional frequentist procedures in sequential clinical trials. (With J. Berger) "Bayesian multiple testing in sequential clinical trials". In revision. 	
AWARDS AND HONORS	<ul style="list-style-type: none"> <i>Ecology</i>: Developed a novel MCMC algorithm which runs Bayesian logistic regression efficiently and performs dimensionality reduction among 25 species and 2 million sparse observations. (With DB. Dunson, et.al) "Sparse factor model with the application in ecology". In preparation. 	
	Statistical and Applied Mathematical Science Institute (SAMSI) , Raleigh, NC Aug, 2013	
	<ul style="list-style-type: none"> Analyzed trends and incidence rates of sexually transmitted diseases in the US over the past thirteen years with Bayesian hierarchical model and spatial statistics. 	
	(With A. Brouwer, et al.) "Burden of Chlamydia in the United States: Trend Analysis of Incidence Rates" Nineteenth Mathematical and Statistical Modeling Final Report, p.77-109. 2013.	
EXTRA- CURRICULAR ACTIVITIES	<i>Duke Reader Project</i> , Duke University 2013 Fall	
	<i>Scholarship for Studying Abroad</i> , Ministry of Education, Taiwan 2011-2012	
	<i>Dean's Award</i> , National Taiwan University (top 10% of class) 2009-2010	
	<i>SAS Statistics Fellow</i> , SAS Institute Inc. (offered but declined) 2014 May	
EXTRA- CURRICULAR ACTIVITIES	<i>Educational outreach</i> , Brogden Middle School, Durham, NC 2014-present	
	Member of <i>International Society for Bayesian Analysis (ISBA)</i> 2013-present	
	<i>Statistical Science Journal Club</i> , Duke University 2013-2014	
	<i>Varsity Table Tennis Team</i> , National Taiwan University 2006-2008	