

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	expecting Dec 2015
	M.A. , Mathematics, Duke University , Durham, NC	Sept 2013
	B.S. , Mathematics, National Taiwan University , Taipei, Taiwan	Jun 2010
EXPERTISE	Statistics, Data Mining, Experimental Design, Machine Learning, Markov Chain Monte Carlo Python (NumPy, SciPy, Pandas, scikit-learn), C++, R (Rcpp, Armadillo, ggplot2), FBLearner Hive, SQL, Presto, Slang, SecDB, Matlab, Git, Linux	
RESEARCH AND PUBLICATIONS	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 dimensional multivariate normal distribution with arbitrary covariance dependence. (With J. Berger) "Asymptotic analysis of Bayesian model selection". In preparation. <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. 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. 	
WORK EXPERIENCE	<i>Data Science Intern</i> , Facebook , Menlo Park, CA	Jun-Aug 2015
	<ul style="list-style-type: none"> Adopted Facebook's SVD-based recommendation system to Instagram likes graph. Provided product insights through analysis of A/B tests of cluster browsing and blended search. Conducted cohort studies and competitive analysis in order to evaluate the performance and impacts of Instagram video filters. 	
	<i>Summer Associate</i> , Goldman Sachs , London, UK	Jul-Sept 2014
	<ul style="list-style-type: none"> Developed and implemented new methods for modeling cross currency swap basis using currency forward. This work is now utilized for daily risk management in Goldman Sachs. Collaborated with engineers and analysts in Bangalore and Singapore to deploy code into production. 	
	<i>Analytics Summer Researcher</i> , Verisk Analytics , San Francisco, CA	May-Jul 2014
	<ul style="list-style-type: none"> Proposed and implemented 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> 	
AWARDS AND HONORS	<i>Instructor</i> , Department of Mathematics, Duke University , Durham, NC	Fall 2012
	<ul style="list-style-type: none"> Taught Single Variable Calculus and managed the work of TAs, received 4.0/5.0 course evaluations. 	
	<i>The Grand Prize & Validic mHealth Prize, Triangle Health Innovation Challenge</i>	Sept 2015
	<i>AAAS/Science Program for Excellence in Science</i> , Duke University	May 2015
	<i>National Collegiate Table Tennis Men's Consolation Singles, Quarter finals</i> , Eau Claire, WI	Apr 2015
EXTRA- CURRICULAR ACTIVITIES	<i>Dean's Award</i> , National Taiwan University (top 10% of class)	2011
	<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	2014
	<i>Varsity Table Tennis Team</i> , National Taiwan University & Duke University	2015