

Angie Shen

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EDUCATION

B.S. in Statistical Science, Duke University, Durham NC
GPA: 3.8/4.0, Major GPA: 3.9/4.0

Expected December 2017

HONORS AND AWARDS

Best Insight, ASA DataFest (2017)

- Built continuation ratio logit model to predict probability of booking for Expedia.com

Finalist, Faculty Scholars (2017)

- Nominee of Department of Statistical Science; highest award given by faculty to undergraduates for independent research and innovative scholarship

Sirena WuDunn Memorial Scholarship (2016 & 2017)

- Recognize academic excellence and valuable contribution in the area of East-West culture awarded by Duke Asia/Pacific Studies Institute

ASCEND Women Scholar (2016)

- Recognize 20 undergraduate female leaders and academic thinkers at Duke

RESEARCH

Explore Anisotropic Covariance Functions for Point-Referenced Data under a Bayesian Framework

Advisor: Alan Gelfand

February 2016 – present

- Apply geometric anisotropic models to simulated and real point referenced spatial datasets; illuminate when and how much such models for random effects improve predictive performance compared to isotropic models; apply Metropolis Hastings sampling algorithm for Bayesian inference; test model sensitivity to different parameter values of the data generating model, including different sample sizes, different choices of anisotropy ratio, and different scales and ratios of spatial variance and pure error

Developing a Prediction Model with Dynamic Electronic Health Records (EHR) Data

Advisors: Ben Goldstein & Beka Steorts

May 2016 – present

- Develop a dynamic risk prediction model for patient deterioration with Electronic Health Records (EHR) data; apply semi-parametric time-varying Cox regression model and multi-state models to incorporate a broad set of available predictors: vitals, labs and demographics; evaluate the model over-time - showing the model performs consistently - and over time horizons - showing the model performs best in the near term; illustrate different consideration in setting the data up in a counting process format to utilize the time-varying feature of EHR data

Explore Scalable Algorithms for Bayesian Nonparametric Clustering

Advisor: Beka Steorts

January 2016 – May 2016

- Develop code for simulating the Dirichlet Process and the Chinese Restaurant Process

PUBLICATIONS

- **Shen, A.**, McCreanor R., Phelan M., O'Brien C., Steorts R., Goldstein B. (2017). Developing a Prediction Model with Dynamic Electronic Health Records Data, *Journal of the Royal Statistical Society: Series A*, Under Review.
- **Shen, A.**, Gelfand, A. (2017). Explore Geometric Anisotropy for Point-Referenced Spatial Data, In Preparation.

CONFERENCE PRESENTATIONS

- *Developing a prediction model with dynamic Electronic Health Records Data*, INFORMS Healthcare, Rotterdam, Netherlands, July 2017
- *Incorporating Dynamic Electronic Health Records (EHR) Data into a Model for Patient Deterioration*, Women in Machine Learning Workshop (WiML) at NIPS, Barcelona, Spain, December 2016
- *Incorporating Dynamic Electronic Health Records (EHR) Data into a Model for Patient Deterioration*, Joint Statistical Meetings (JSM), Chicago, August 2016

PROFESSIONAL EXPERIENCE

Second Order Solutions, Richmond, VA

Data Science Intern

May 2017 – August 2017

- Built logistic regression and gradient boosting models to predict credit risk; assessed the efficacy of credit policy by modeling loan payments and default risk; researched the performance of machine learning algorithms applied to credit bureau data

Center for Health and Wellbeing, Belfast, UK

Quantitative Analyst Intern

June 2015 – August 2015

- Extracted information from client database; designed a survey on client mental health needs; interviewed 85 clients; analyzed survey data; secured additional funding of £16,000 from Belfast Social Care Trust following report publication

UNIVERSITY ACTIVITIES

Duke East Asia Nexus, President

Spring 2016 – present

- Oversaw journal and online blog production; planned and executed events on East Asian affairs, such as the Duke-UNC China Leadership Conference, panel discussions and film screenings

The Other Blog, Founder and President

Fall 2014 – present

- Founded The Other, a blog devoted to identity and social justice issues; launched annual multimedia essay contest, publicized the platform, recruited writers and established connections with campus organizations

TECHNICAL SKILLS

R, Python, Java, SQL, Latex, Tableau

LANGUAGE SKILLS

Chinese (Native), English