

Angie Shen

yueqi.shen@duke.edu | 919-564-9566

EDUCATION

B.S. in Statistics, Duke University

expected December 2017

GPA: 3.8/4.0, Major GPA: 3.8/4.0

RESEARCH EXPERIENCE

Explore Anisotropic Covariance Functions for Point Referenced Data under Bayesian Framework

Advisor: Alan Gelfand

February 2016 – present

Apply geometric anisotropic Bayesian models to simulated and real point referenced spatial datasets; illuminate when and how much such models for random effects in geostatistical settings improve predictive performance compared to isotropic models; apply Metropolis Hastings sampling algorithm; extend such modeling to multivariate spatial and spatio-temporal settings.

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

Advisor: 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 Dirichlet Process and Chinese Restaurant Process.

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

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, submitted to *Biometrics*.

- **Shen, A.,** Gelfand, A. (2017). Explore Anisotropic Covariance Functions for Point Referenced Data under Bayesian Framework, 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; developed and executed fundraising, marketing, outreach and operations strategies; Successfully 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)