Kaley Hanrahan

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EDUCATION

University of Virginia **Charlottesville, VA**
Master of Science in Data Science (GPA: 4.0) Expected May 2017

Davidson College **Davidson, NC**
Bachelor of Science in Psychology, Applied Mathematics (Major GPA: 3.8) May 2014
Senior Thesis: Quantitative analysis of strengths and weaknesses of first time managers

Relevant Coursework: Machine Learning, Data Mining, Linear Models, Time Series, Data Visualization, Programming and Systems, Ethics of Big Data, Experimental Design and Statistical Analysis

TECHNICAL SKILLS & TECHNIQUES

Technical Skills: *proficient in* R, Python, Tableau *and exposure to* SQL, SPSS, SAS, d3.js
Techniques: Hypothesis Testing, Feature Selection, Linear & Logistic Regression, Time Series, Bayesian, Networks, Market Basket Analysis, Decision Trees (Random Forests, Bagging), KDE, Neural Networks

PROJECTS

Forecasting Subscriber Populations September 2016 - Present
- Developing methodology to generate annual 5-year consumer forecasts for S&P Global Market Intelligence
- Applying neural networks and time series analysis to census and subscription data using Python

Consumer Online Search Analysis Spring 2017
- Clustered consumers and performed market basket analysis based on browsing history using R

Predicting Severity of Adverse Drug Reactions to SSRIs Fall 2016
- Cleaned OpenFDA json files in R and applied multiple imputation to address missingness
- Predicted severity of reactions based on drug and patient characteristics using LASSO logistic models

Relationship between Crime Events and Lot Vacancies in Chicago Summer 2016
- Conducted spatial analysis of crime occurrences in Chicago using kernel density estimation (KDE) in R
- Developed and tested hypotheses around crime events and lot vacancies based on time and type of crime

PROFESSIONAL EXPERIENCE

The Annie E. Casey Foundation **Baltimore, MD**
Impact Fellow to Program Assistant, Leadership Development June 2014 – June 2016
- Led design and implementation of data management system to evaluate impact of Foundation's work with 1,500+ public-sector leaders (in collaboration with software developers and subject matter experts)
- Created dashboards and designed reports to provide real-time feedback to program managers and unit Director, enabling iterative improvements to maximize budget of $9 million portfolio
- Orchestrated workshops and provided intensive technical support to team of 7 data managers

Press Ganey Associates **Charlotte, NC**
Analyst September 2013 – May 2014
- Analyzed and compiled survey data for healthcare clients to direct the optimization of physician services

Davidson Research Initiative **Davidson, NC**
Research Fellow May – August 2013
- Won a competitive grant to support an independent research project investigating effects of model misspecification, a pervasive problem in the organizational sciences, on various statistical techniques
- Designed a computer simulation and conducted extensive statistical analyses using R
- Delivered 3 presentations encouraging use of a technique less affected by misspecification

School for Field Studies **Bumthang, Bhutan**
Researcher for the Conservation Institute of Bhutan June – July 2012
- Generated comprehensive plans for an Early Warning Flood System as a part of a multidisciplinary team
- Analyzed interview data and presented recommendations to over 20 Bhutanese government officials

Additional: Psi Chi (National Honors Society of Psychology); Davidson Club Lacrosse Captain; Turner Eating House Social Chair (Social Community Service Org.); University Autism Outreach; Dual Citizen (US & Ireland)