

# Kaley Hanrahan

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## EDUCATION

### University of Virginia

*Master of Science in Data Science* (GPA: 4.0)

Charlottesville, VA

May 2017

### Davidson College

*Bachelor of Science in Psychology, Applied Mathematics* (Major GPA: 3.8)

Senior Thesis: Quantitative analysis of strengths and weaknesses of first time managers

Davidson, NC

May 2014

*Relevant Coursework:* Machine Learning, Data Mining, Linear Models, Time Series, Data Visualization, Programming and Systems, Ethics of Big Data, Experimental Design and Statistical Analysis, Adv. Statistics in I/O Psychology

## 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

Fall 2016 – Spring 2017

- 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

### Clockwork Solutions

Austin, TX

*Data Analyst*

July 2017 – Present

- Simulation model construction, testing, results analysis, and reporting
- TBD

### 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)