Nicholas S. Berry, PhD

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Berry Consultants, LLC

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https://berryni.github.io

Education

- **Iowa State University** — Ames, IA
  PhD Statistics (earned 2019) & MS Statistics (earned 2016) — *2013 - 2019*
  - Dissertation: *Extending K-means*
  - Research in unsupervised learning, especially clustering, as well as graphical models, including Dynamic Bayesian Networks and Gaussian Graphical Models.
  - Committee: Dr. Ranjan Maitra (advisor), Dr. Alicia Carriquiry, Dr. William Meeker, Dr. Dan Nettleton, Dr. Vivekananda Roy

- **Texas A&M University** — College Station, TX
  BS Applied Mathematics, emphasis in Statistics — *2009 - 2013*

Research Experience

- **Iowa State University** — Ames, IA
  Center for Statistics and Applications in Forensic Evidence — *Fall 2017 - Spring 2019*
  - Automatic Forensic Analysis of Handwriting and Questioned Documents
  - https://github.com/CSAFE-ISU/handwriter

- **MD Anderson Cancer Center** — Houston, TX
  Graduate Researcher under Drs. Min Jin Ha and Kim-Ahn Do — *Summer 2017*
  - Created pipeline for analysis of underlying graph structures for microbiome data
  - Estimation and differential network analysis for sub-group specific microbiome data

- **Iowa State University** — Ames, IA
  Graduate Researcher under Dr. George Amariucai — *Fall 2015 - Spring 2017*
  - Continuous Biometric Authentication via Dynamic Bayesian Networks
  - Eliminating positive feedback for connected authenticating devices

Teaching Experience

- **Instructor** — Iowa State University, Ames, IA
  - Stat 104: (Introduction to Statistics): Fall 2014, Spring 2015, Fall 2015

- **Co-Instructor** — Iowa State University, Ames, IA

- – Stat 444: (Bayesian Data Analysis): Spring 2018

- **Grader / Lab Instructor**
<div align="right">Iowa State University
Ames, IA</div>

  - – Stat 401 (Stat. Methods for Research): Summer 2015
  - – Stat 101 (Principles of Statistics): Fall 2013, Spring 2014, Summer 2014

Skills

- **Statistics**

  - – Advanced statistical methods, including spatial, time series, advanced likelihood topics, and Bayesian inference
  - – Statistical Computing (in R & C) – Advanced MCMC methods, clustering algorithms, EM, Bootstrap/Jackknife
  - – Measure & Probability Theory

- **Programming/Software**

  - – Fluent in R, C, C++
  - – Extensive use of Python, Java, and SAS
  - – Broad understanding of data structures and algorithms
  - – Proficient with LaTeX, the tidyverse, git, and dynamic document creation

- Strong public speaking skills

Presentations

- **Joint Statistical Meetings**
<div align="right">Vancouver, BC, Canada
<i>August 2018</i></div>

  - – TiK-means: A Transformation Infused K-means Algorithm for Skewed Groups

- **Graphics Working Group**
<div align="right">Iowa State University
<i>March 2018</i></div>

  - – Information Extraction for Handwritten Text

- **Joint Statistical Meetings**
<div align="right">Baltimore, MD
<i>August 2017</i></div>

  - – Variable Selection in K-means Clustering

- **Digital Forensics Workshop**
<div align="right">Washington D.C.
<i>May 2017</i></div>

  - – Continuous Biometric Authentication and Sequential Updating of Beliefs

- **Statistical Learning Working Group**
<div align="right">Iowa State University
<i>October 2016</i></div>

- Continuous Authentication in Challenging Environments via Dynamic Bayesian Networks

Awards

- **Graduate Teaching Award**   Iowa State University
                                                                    April 2016

Other Projects

- *International Champions Cup Ticket Sales*   *Summer 2014*
    - Consulted on a project to model and predict final ticket sales for soccer games in US based on data from previous year
    - Made accurate predictions, despite those predictions being different than anticipated by the hiring company