Iain Carmichael

| CONTACT | *Email*: iain@unc.edu | *website*: https://idc9.github.io/ |
| | *GitHub*: idc9 | |

EDUCATION	**The University of North Carolina,** *Chapel Hill, NC*	August 2014 - Present

Ph.D. Statistics, Department of Statistics and Operations Research
Advisors: J.S. Marron, Shankar Bhamidi

Cornell University, College of Arts and Sciences, *Ithaca, NY* — May, 2014
B.A. Mathematics, Cum Laude
B.A. Physics, Cum Laude

SKILLS

Programming Languages: Python, R, LaTeX
Statistical Techniques: Machine Learning, Network Science, MCMC, PCA, Probabilistic Programming

RESEARCH EXPERIENCE

Research Assistant, STOR Department, UNC, *Chapel Hill, NC* — Spring 2016 - Present
- Support Vector Machine in high dimensional settings.
- Stochastic processes and temporally evolving networks.
- Dimensionality reduction for multi-layered network observations.
- Natural language processing and domain adaptation/data integration with word embeddings.
- Applications to neuroscience and law.

Consultant, Reese News Lab, UNC, *Chapel Hill, NC* — Spring 2017 - Present
- Member of search committee to hire a data scientist.
- Collaborated with team of journalists and data scientists to create data driven stories.

Research Scientist, Gamalon Machine Intelligence, *Cambridge, MA* — May 2016 - August 2016
- Research on problems in probabilistic programming.
- Contributed to the development of Chimpy, a probabilistic programming language in Python.

Research in Industrial Projects for Students, UCLA, *Los Angeles, CA* — Summer 2012
- Participated in NSF sponsored research program at the Institute for Pure and Applied Mathematics.
- Designed and analyzed satellite regional coverage algorithms for the Aerospace Corporation.

TEACHING AND PROFESSIONAL EXPERIENCE

Instructor, STOR 390: Introduction to Data Science, UNC, *Chapel Hill, NC* — Spring 2017
- Designed and taught undergraduate data science course with grant from Data@Carolina initiative. See course website: `https://idc9.github.io/stor390/`.

Undergraduate Mentorship, UNC, *Chapel Hill, NC* — Spring 2015 - Present
- Supervised team of undergraduates doing natural language processing and empirical legal research.
- Coached UNC team and developed tutorials for DataFest, an undergraduate data science competition.
- Taught R for JOMC 390: Data Driven Journalism as a Graduate Research Consultant.

Curriculum Development Committee, UNC, *Chapel Hill, NC* — Spring 2017
- Served on a task force working to revise the general UNC curriculum.

Referee: IEEE Transactions on Neural Networks and Learning Systems

Software Developed
- *JIVE*: A python package implementing of Joint and Individual Variation Explained (JIVE) for feature extraction with multiple data sets (`https://github.com/idc9/pyjive/`).
- *AJIVE*: An R package implementation of JIVE (`https://github.com/idc9/r_jive/`).

AWARDS

Datathon Winner, Duke University, *Durham, NC* — April 2017
- On team of 4 winning $20,000 data science competition sponsored by Citadel.