

Nicholas D. Haynes

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Summary Data scientist with a deep mathematical background. Experience building products by analyzing and explaining large datasets. Team player, critical thinker, skilled communicator.

Experience **Data scientist, Innovation team, Automated Insights** **August 2016 – Present**

- Trained and deployed word representation models to generate word suggestions for users of the Wordsmith Natural Language Generation platform
- Conceptualized and implemented a metric for ranking the variability of Wordsmith users' output narratives and making suggestions for improvements
- Prototyped a series of algorithms for automatically extracting key points from narratives

Data science intern, Automated Insights **May 2016 – August 2016**

- Collaborated with developers and stakeholders across the company to build innovative customer-facing products and internal solutions
- Used a variety of methods from machine learning and natural language processing in conjunction with tools like Python, SQL, and R

Graduate research assistant, Duke University, Durham, NC **May 2013 – December 2016**

- Studied the fundamental dynamics of networks built with programmable digital hardware and applications for high-speed machine learning
- Built proof-of-principle recurrent neural networks in hardware
- Conducted high-throughput analysis of ~100s GB experimental data using Open Science Grid
- Presented results in 2 peer-reviewed publications and 6 conference posters

Contractor, U.S. Air Force Research Laboratory, Dayton, OH **October 2009 – May 2013**

- Characterized novel optical materials being developed for next-generation laser platforms
- Employed a mix of experimental, theoretical, and computational techniques
- Presented results in 3 peer-reviewed journals and at 2 international conferences

Technical skills **Programming and development**

Python (+ PyData stack), R, C/C++, SQL, git, Bash and *nix environment, Docker, Amazon Web Services

Data analysis and machine learning

Natural language processing, classification, regression, clustering, feature selection and engineering, parallelization and high-throughput computing

Education **AM, Physics** **December 2016**
Duke University, Durham, NC

MS, Applied Mathematics **May 2013**
University of Dayton, Dayton, OH

BS, magna cum laude **August 2011**
University of Dayton, Dayton, OH
Majors: Physics, Philosophy

Selected Coursework **Math and statistics**
Mathematical statistics I, II; Random Processes; Linear algebra; Numerical analysis I, II

Computer science
Algorithms and data structures; Artificial intelligence; Data-intensive computing systems