

Nicholas D. Haynes

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EDUCATION

PhD, Physics Duke University

Expected graduation: May 2018

MS, Applied mathematics University of Dayton

Graduated: August 2013

BS, Honors with Distinction, Magna Cum Laude University of Dayton

Majors: Physics, Philosophy

Minor: Mathematics

Graduated: August 2011

EXPERIENCE

May 2013 – Present

Graduate research assistant

- Studied the fundamental dynamics of networks built with programmable digital logic hardware and applications for information processing
- Used field-programmable gate arrays extensively for high-speed data processing and communication
- Successful in building proof-of-principle recurrent neural networks in hardware
- High-throughput analysis using Open Science Grid on ~100 GB experimental datasets

October 2009 – May 2013

Contractor, U.S. Air Force Research Laboratory

- 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

C/C++, Java, Python, MATLAB, Verilog, git, Bash/Linux environment, Amazon Web Services, Docker

Data analysis and machine learning

Linear and logistic regression, ensemble methods, SQL, scikit-learn, Pandas

RELEVANT COURSEWORK

Mathematical methods

Mathematical statistics I, II; Linear algebra; Numerical analysis I, II; Random processes; Stochastic calculus

Computer science

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

AWARDS AND FELLOWSHIPS

Wireless Intelligent Sensor Networks fellowship (2013 – 2015); Rocco M. Donatelli Award to the Senior with the Strongest Record in the Humanities and the Sciences (2011); Sigma Pi Sigma Award of Merit to Senior in Physics (2011); Award of Excellence to the First Outstanding Senior in Philosophy (2011); Eagle Scout Award (2003)