

David Merrell

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Education

Ph.D. Computer Science Sep 2016 - Present

University of Wisconsin—Madison

Current Ph.D. student. Research interests include AI and machine learning. Coursework has included AI, optimization, and program analysis.

B.S. Mathematics, cum laude Apr 2014

Brigham Young University—Minor in Physics—GPA 3.9

Coursework included: real analysis, probability, complex analysis, matrix analysis/linear algebra, numerical methods, ODEs, PDEs, computational physics, classical mechanics, abstract algebra.

Technical Skills

Python · C++ · MATLAB · Git · Subversion

Linux · bash · SQL · R · \LaTeX · Mathematica

Experience

RAND Corporation Sep 2014 - Mar 2016

Full Time Research Assistantship. I built software to do the following:

- Model transportation networks;
- Compute optimal flight paths, subject to wind and overflight restrictions;
- Provide commanding officers a map-based interactive display of fuel resources during wargames;
- Generate 3D views of aircraft geometry.

Sandia National Laboratories Summer 2013; Summer 2014

Two internships. I worked on the ALEGRA shock/MHD finite element code. I revised its treatment of material heterogeneity.

- I refactored the representation of material heterogeneities for consistency and scalability.
- I improved the rigor of the underlying stochastic process concepts.

BYU Dept. of Physics and Astronomy Sep 2013 - Apr 2014

Research Assistantship. I investigated ways to take the fourier transform of spline-based signals. It was intended for use in processing outputs of isogeometric analysis .

Pacific Northwest National Laboratory Summer 2012

Internship. I helped characterize the performance of a computer vision algorithm that was used to detect fission products in a time-projection chamber.