

Daniel C. Elton

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Objective

Recent computational physics Ph.D. with strong programming and quantitative skills looking to transition into an exciting career in machine learning.

Education

Dec. 2016 **Ph.D. Physics**, *Stony Brook University*, Stony Brook, NY

Aug. 2009 **B.S., Physics**, *Rensselaer Polytechnic Institute*, Troy, NY
Mathematics minor, Magna Cum Laude, GPA 3.87

Recent Experience

2017- **Postdoctoral Associate**, *University of Maryland, College Park*

- Working with Prof. Peter W. Chung and Prof. Mark Fuge applying machine learning to materials property prediction and molecular design.

Feb-Apr **Tutor**, *Schenectady County Community College*

- Tutor in the Learning Center for physics, chemistry, and math.

2012-2016 **Graduate Research Assistant**, *Stony Brook University*

Ph.D. adviser: Prof. Marivi Fernández-Serra

- Developed programming and code management skills by writing thousands of lines of code in Python and Fortran for quantum molecular dynamics simulation, analyzing molecular dynamics trajectories, and spectrum fitting.
- Planned and executed a detailed study of the dielectric spectra of water which led to the discovery of phonon-like modes in liquid water.
- Ran molecular dynamics simulations with thousands of molecules on HPC clusters.
- Developed a novel parallel algorithm that speeds up PIMD simulation with density functional theory by a factor of 30 with acceptable losses in accuracy.
- Wrote the "spectrumfitter" Python package for fitting dielectric spectra.
- Three first author publications in *Journal of Chemical Physics*, *Nature Communications* and *Physical Chemistry Chemical Physics*.
- Gave 6 talks at major conferences and numerous poster presentations.

2010-2012 **Graduate Teaching Assistant**, *Stony Brook University*

2010 **Summer Internship**, *Los Alamos National Laboratory*

- Worked with Dr. Garrett Kenyon on biologically-inspired neural networks for computer vision.

2009-2010 **Graduate Teaching Assistant**, *Rensselaer Polytechnic Institute*

Computer skills

- Fortran (5 years), Python (3 years), Matlab (4 years)
- MP/MPI parallelization, C/C++, Mathematica, Bash, HTML/CSS (beginner)
- L^AT_EX, Git, MS Office, Wordpress, GNU/Linux, MS Windows, MacOS
- code examples at www.github.com/delton137/

Select honors

2014	Peter B. Kahn prize	2006	Rensselaer Medal/Scholarship
2009	Rensselaer Founder's Award of Excellence	2004	Eagle Scout Award

Leadership & service

2016-2017 Founder & Organizer, Tech Valley Machine Learning, Data Science, and AI Meetup

2015-2016 Writer & Public Relations Director, *Stony Brook Frontiers* magazine

2013-2015 Senator & Social Concerns Committee member, Stony Brook Graduate Student Organization

2014-2015 Volunteer, Stony Brook Astronomy Open Nights

2014,2015 Judge, Nassau County Science Competition