Ryan Compton - Resume

Contact Information	UCLA Mathematics Department	Office: MS 3965
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Specializations Numerical linear algebra, image processing, complex networks, parallel computing.

Education

Finishing PhD Student in Mathematics at UCLA

Fall 2006-present
Thesis title: A Sparse Spectral Method for Hamiltonian Eigensystems.
Advisor: Chris Anderson

MS, Mathematics, April 2008, UCLA.

BA, Mathematics/Physics, May 2006, New College of Florida, Sarasota, FL

Thesis title: Optimizing Cover Times with Constraints.
Advisor: Patrick McDonald

Professional Research staff, HRL Laboratories, Summer 2011. Worked in the information and systems science lab with the goal of forecasting large sudden changes in social networks.

Research

Ryan Compton, Stanley Osher and Louis Bouchard, "Hybrid regularization for MRI reconstruction with static field inhomogeneity correction", *IEEE International Symposium on Biomedical Imaging* , May 2012

Ryan Compton, Hankyu Moon and Tsai-Ching Lu, "Catastrophe prediction via estimated network autocorrelation", *WIN Workshop on Information in Networks*, September 2011

Ryan Compton, "A sparse spectral method for Hamiltonian eigensystems", *UCLA technical report*, January 2011

Awards

NSF VIGRE Fellowship, Fall 2006-2010. Grant from the NSF provides partial funding for graduate education/research through 2010.

UCLA Teaching Assistantship, Fall 2006-present. Awarded by UCLA, provides partial funding for graduate education/research.

Computer Skills Five years experience developing numerical methods in C/C++, Python, and MATLAB.

Coursework

Classes taken Real Analysis (3 quarters), Applied Differential Equations (3 quarters), Numerical PDE (2 quarters), Complex Analysis, Probability (2 quarters), Numerical Linear Algebra (2 quarters), Programming for Statistics (2 quarters).

Qualifying exams Applied Differential Equations, Numerical Analysis.

Teaching

Teaching Assistant, Math 170B (Probability) Laws of large numbers and Markov chains.
Teaching Assistant, Math 164 (Optimization) Simplex methods and polytopes.

Teaching Assistant, Math 1142 (Mathematical Modeling) Fall 2008. Conservation laws in the context of traffic flow.
Teaching Assistant, Math 136 (Partial Differential Equations) Spring 2008. Heat equation, wave equation, Poisson equation.
Teaching Assistant, PIC 10b (Intermediate C++) Winter 2008. Dynamic memory allocation and data structures.
Teaching Assistant, PIC 10a (Introductory C++) Spring-Fall 2007. Fall-Winter 2010. Fall 2011. Basic syntax and programming in C++.