

Ryan Compton

CONTACT INFORMATION	ryan@ryancompton.net (310) 894-6829	http://www.ryancompton.net
CURRENT	Postdoc, HRL Laboratories, June 2012-present. Research on algorithms for mining massive modern datasets and predictive analytics. Conceived of and developed a social media data mining system which generated forecasts for several thousand incidents of international social unrest and implemented an algorithm which accurately inferred home locations for over one hundred million Twitter users.	
EDUCATION	MS, PhD , Mathematics, UCLA, 2006-2012 Dissertation: Sparsity promoting optimization in quantum mechanical signal processing. Advisor: Chris Anderson BA , Mathematics/Physics, May 2006, New College of Florida Thesis title: Optimizing Cover Times with Constraints. Advisor: Patrick McDonald	
PROGRAMMING	Python : Five years, used for machine learning, numerical methods, and visualization. Java : Two years, used for the Hadoop stack, Android, and various web apis. Scala : One year, used for Apache Spark. C/C++ : Two years implementing numerical methods. Matlab : Three years, used for linear algebra and optimization. Linux : Currently administer a 24-node Ubuntu cluster. Home Linux user since 2002.	
FIRST-AUTHOR PUBLICATIONS	Ryan Compton, Matthew S. Keegan, Jiejun Xu “Inferring the Geographic Focus of Online Documents from Social Media Sharing Patterns”, <i>Computational Approaches to Social Modeling (ChASM) Workshop at WebSci</i> , 2014 Ryan Compton, David Jurgens, David Allen, “Geotagging One Hundred Million Twitter Accounts with Total Variation Minimization” <i>IEEE BigData 2014</i> arXiv: 1404.7152 Press coverage: Forbes Business Insider New York Observer Schneier on Security Ryan Compton, Craig Lee, Jiejun Xu, Luis Artieda-Moncada, Tsai-Ching Lu, Lalindra De Silva, Michael Macy “Using Publicly Visible Social Media to Build Detailed Forecasts of Civil Unrest”, <i>Springer Security Informatics</i> , 2014 Ryan Compton, Craig Lee, Tsai-Ching Lu, Lalindra De Silva, Michael Macy, “Detecting future social unrest in unprocessed Twitter data: Emerging phenomena and big data”, <i>IEEE-ISI</i> , 2013 best paper nomination Ryan Compton, Nanette Jarenwattananon, Louis Bouchard and Stanley Osher, “Model based compressed sensing reconstruction of nonuniformly sampled NMR signals”, to be submitted Ryan Compton, Stanley Osher and Louis Bouchard, “Hybrid regularization for MRI reconstruction with static field inhomogeneity correction”, <i>IEEE International Symposium on Biomedical Imaging</i> , May 2012 (Journal version: <i>Inverse Probl. Imag.</i> 7, 1215-1233 (2013)) Ryan Compton, Hankyu Moon and Tsai-Ching Lu, “Catastrophe prediction via estimated network autocorrelation”, <i>WIN Workshop on Information in Networks</i> , September 2011	