Frederick Robinson

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Education

2014 **Master of Arts in Mathematics (Expected)**, *University of California Los Angeles.*

2012 **Bachelor in Mathematics with Honors**, *Northwestern University*, 3.62 (Major GPA).

Robert R. Welland Prize for Outstanding Achievement in Mathematics by a Graduating Senior

Honors thesis on *Persistant Homology* under David Nadler

2008 **High School Diploma**.

Research Experience

2011 **Indiana University Research Program**, *NSF funded project investigating phylogenetics with Prof. E Housworth.*

2010 **Number Theory Research**, *Researched cyclotomic integers under Prof. F. Calegari funded by NSF grant.*

2010 **Discrete and Continuous Geometry**, *Selected for and attended two week research conference at Northwestern University.*

Employment

2012-2013 **Teaching Assistant**, *Conducted recitations for undergraduate classes.*

2010 **Physics Programming**, *Coded in C leveraging GNU Scientific Library to simulate gravitational waves from intermediate mass ratio inspiral.*

Computer Skills and Interests

Proficient Go, Mathematica, Python

Basic Java, C

Miscellaneous Windows, Microsoft Office, Linux, LaTeX

Algorithms Greedy optimization, divide and conquer, dynamic programming, network flows, reductions, and randomized algorithms. Computational tractability (NP-completeness).

Machine Learning Regression: *regularization*; Neural Networks: *backpropogation*; SVMs; Unsupervised Learning: *clustering, dimensionality reduction*; Recommender Systems

Publications

Frederick Robinson and Michael Wurtz. On the magnitudes of some small cyclotomic integers. *Acta Arithmetica*, 160(4):317–32, 2013.

Languages

English **Fluent**

Spanish **Proficient**