

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 *Persistent 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

- 2012-2014 **Teaching Assistant**, *University of California, Los Angeles Department of Mathematics*.
Conducted recitations for undergraduate classes - Calculus, Differential Equations, C++
- 2010 **Physics Programming**, *Northwestern University Department of Physics and Astronomy*.
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, L^AT_EX
- Algorithms Greedy optimization, divide and conquer, dynamic programming, network flows, reductions, and randomized algorithms. Computational tractability (NP-completeness).
- Machine Learning Regression: *regularization*; Neural Networks: *backpropagation*; 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**