

YI HUANG

yhuang89@uic.edu

<http://homepages.math.uic.edu/~yhuang/>

phone: (312) 404-0499

EDUCATION

- Ph.D. in Mathematics (expected)**, *University of Illinois at Chicago*, Chicago, IL (GPA 3.8/4.0) 2012–2017
Department of Mathematics, Statistics, and Computer Science; advisor: Lev Reyzin
- M.S. in Mathematics**, *Georgia Institute of Technology*, Atlanta, GA (GPA: 4.0/4.0) 2010
- M.S. in Applied Mathematics**, *Chinese Academy of Sciences*, Beijing, China (GPA: 85/100) 2008
- B.S. in Computational Sciences**, *Nankai University*, Tianjin, China (GPA: 82/100) 2004

QUALIFICATIONS

data analysis and visualization, machine learning (including AdaBoost, SVM, neural networks, random forests, and many other algorithms), network analysis, algorithm design and complexity analysis

PROGRAMMING LANGUAGES

Java, Python, C++/C

AWARDS AND RECOGNITION

- Graduate teaching award**, Mathematics, Statistics, & Computer Science, UIC *academic year 2013–2014*
- Research assistantship**¹, Mathematics, Statistics, & Computer Science, UIC *Fall 2014, Fall 2015*

PUBLICATIONS AND MANUSCRIPTS

Note that conferences, not journals, constitute the main publication venues in computer science. The conferences IJCAI and AAMAS comprise the premier and most prestigious venues for AI and autonomous systems research, respectively.

- Yi Huang, Mano Vikash Janardhanan, and Lev Reyzin. Network Construction with Ordered Constraints. *Manuscript, arXiv:1702.07292* (2017)
- Benjamin Fish, Yi Huang, Lev Reyzin. Recovering Social Network by Observing Votes. *Proceedings of the 15th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2016)*
- Yi Huang, Brian Powers, Lev Reyzin. Training-Time Optimization of a Budgeted Booster. *Proceedings of the 24th International Joint Conference on Artificial Intelligence (IJCAI 2015)*

COMPLETED PROJECTS

- **Social network inference:** Designed graphical models for inferring US Senate social networks from voting data. Designed inference algorithms and implemented them in Java and Python.
- **Neural networks with small training sets:** Implemented the backpropagation neural network algorithm in Java. Trained networks with only linearly many samples and analyzed their behavior.
- **Optimization of budgeted boosting algorithms:** Designed specialized boosting algorithms for classification where features have associated costs to access them, with optimization done during training.
- **Visualizing the EEG connectome using dimensionality reduction:** Applied nonlinear dimensionality reduction algorithms, including isoMap and t-SNE, to EEG connectome data.
- **Optimizing networks with genetic algorithms:** Designed and implemented genetic algorithms for the multi-variable multi-objective optimization urban flow pipe network construction problem.
- **New schemes for Maxwell's equations:** Developed new, high symmetry, finite difference schemes for numerically solving Maxwell's Equations, dramatically increasing ability to parallelize the computation.

¹Teaching assistantships fund most mathematics Ph.D. students. Research assistantships are highly competitive.