

Andrew K. Massimino

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Education

- Aug. 2012 – **Ph. D. in Electrical and Computer Engineering**, *Georgia Institute of Technology*, Atlanta, GA.
Nov. 2018 Advised by Dr. Mark A. Davenport. Minor in Mathematics.
Thesis title.—*Learning to adapt under practical sensing constraints*.
 - Georgia Tech President's Fellowship.
 - Algorithms and Randomness Center (ARC) Student Fellowship.

August 2017 **M. S. in Mathematics**, *Georgia Institute of Technology*, Atlanta, GA.
M. S. in Electrical and Computer Engineering, *Georgia Institute of Technology*, Atlanta, GA.

June 2007 – **Bachelor of Engineering**, *The Cooper Union for the Advancement of Science and Art*, New York, NY.
May 2011
 - Full Tuition Merit-Based Scholarship. Electrical Engineering. *Magna Cum Laude*, GPA: 3.75/4.00.
 - The Dale E. Zand Prize, "For Outstanding Achievement in the Understanding of Course Material," (awarded to one graduating senior in electrical engineering per year).

Work Experience

- Jan. 2013 – **Graduate Research Assistant**, *Georgia Tech*, Atlanta, GA.
Dec. 2018 Statistical signal processing, machine learning, probability, and optimization.
 - Created theory and algorithms for active information acquisition in applications with query constraints, applicable in numerous situations including imaging, recommender systems, rapid information retrieval tasks, targeted advertising, and psychological studies.
 - Developed methods and theoretical guarantees for adaptively learning from pairwise comparison observations, useful for rapidly estimating a user's favorite movies, music, foods, etc.

Aug. 2015 – **Research Mentor**, *Opportunity Research Scholars (ORS) Program*, *Georgia Tech*.
May 2016 Managed and mentored a team of undergraduate students performing biomedical research in signal processing using sensor data to analyze wheel-chair seat posture to prevent injury.

June 2012 – **Research Intern**, *Naval Research Laboratory*, Washington, DC.
Aug. 2012 Deployed optical flow sensors in multi-robot tracking at the Laboratory for Autonomous Systems Research.

May 2010 – **Software Development Intern**, *Research and Development*, *Bloomberg L.P.*, New York, NY.
Aug. 2011 Internal Systems, Sales Reporting and Workflow Department.
 - Developed various customer relationship management (CRM) applications in use by company sales representatives, including user interface, back-end, and database design.
 - Created a wizard-style interface for event registrations which was used internally for event planning.
 - Used Microsoft BING map and address geocoding technologies to build a new map-based CRM tool allowing sales representatives to plan trips and discover points of interest nearby their prospective clients.

June 2009 – UI Infrastructure Department
Aug. 2009
 - Improved team SVN tool and evaluated Microsoft WPF for modernizing product user interfaces.

Jan. 2009 – **Computer Center Senior Operator**, *The Cooper Union*, New York, NY.
May 2010 Programmed a new Perl/Asterisk-based voicemail system for departments and faculty members.

Skills

- Languages C, C++, Matlab, Python (NumPy, SciPy), Perl, Vimscrip, Javascript, C#.
- Software \LaTeX , Git, Vim, TensorFlow, MS SQL, Google Cloud Platform, Windows, Linux.

Teaching

Fall 2012 **Teaching Assistant for ECE 2026: Intro to Digital Signal Processing**, *Georgia Tech*, Atlanta, GA.

Instructed 2–3 lab sessions each week for the introductory digital signal processing course, assisting students with Matlab and fundamental concepts in signal processing; verified lab progress and graded assignments.

Spring 2010 **Instructor of a Matlab Seminar**, *The Cooper Union*, New York, NY.

♣ 2011 Prepared and delivered weekly lectures, created and graded assignments.

Publications

A. K. Massimino and Mark A. Davenport. As you like it: Localization via paired comparisons. *Submitted*, February 2018. Preprint available on arXiv: <https://arxiv.org/abs/1802.10489>.

A. K. Massimino and Mark A. Davenport. The geometry of random paired comparisons. In *Proc. IEEE Int. Conf. on Acoustics, Speech, and Signal Processing (ICASSP)*, New Orleans, LA, March 2017.

M. A. Davenport, A. K. Massimino, D. Needell, and T. Woolf. Constrained Adaptive Sensing. *IEEE Trans. Signal Processing*, 64(20):5437–5449, October 2016. (avail. arXiv:1506.05889).

A. K. Massimino and M. A. Davenport. Binary stable embedding via paired comparisons. In *Proc. IEEE Work. on Statistical Signal Processing (SSP)*, Palma de Mallorca, Spain, June 2016.

M. G. Moore, A. K. Massimino, and M. A. Davenport. Randomized multi-pulse time-of-flight mass spectrometry. In *IEEE Int. Work. on Comput. Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, Cancun, Mexico, December 2015.

M. A. Davenport, A. K. Massimino, D. Needell, and T. Woolf. Constrained adaptive sensing. In *Workshop on Signal Processing with Adaptive Sparse Structured Representations (SPARS)*, Cambridge, United Kingdom, July 2015.

A. K. Massimino and Mark A Davenport. One-bit matrix completion for pairwise comparison matrices. In *Workshop on Signal Processing with Adaptive Sparse Structured Representations (SPARS)*, Lausanne, Switzerland, July 2013.