

Andrew K. Massimino

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Education

- Aug 2012 – **Ph. D. Candidate**, *Georgia Institute of Technology*, Atlanta, GA.
July 2018 Digital Signal Processing. Under the advisement of Dr. Mark A. Davenport.
(expected) 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.
- August 2017 **M. S. in Electrical Engineering**, *Georgia Institute of Technology*, Atlanta, GA.
- June 2007 – **B. Eng.**, *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.
Present
- ✍ My research applies theory in signal processing and machine learning to develop techniques for adaptive signal acquisition which can cope with measurement constraints. The goal of this work is to use structured data models to enable higher quality inference and prediction with less labeled data in diverse applications, e.g., imaging, targeted advertising, and recommendation systems. My interests include statistical signal processing, active learning, randomized algorithms, compressed sensing, experimental design, and collaborative filtering.
- Principal investigator: Mark A. Davenport.
- 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.
- 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 as a full team member. Work included user interface, back-end, and database design.
 - Created a wizard-style interface for event registrations which was used for the company-wide summer party.
 - 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 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, Perl, Python, Vimscript, Javascript, C#, Java, Lex/Flex, Yacc/Bison.
- Software \LaTeX , Git, Subversion, MS SQL, Vim, Windows, Linux, Unix.

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.