

# Austin Xu

---

CONTACT INFORMATION	Phone: (248) 402-3571 Email: axu77@gatech.edu	<a href="https://austinxu87.github.io/">https://austinxu87.github.io/</a>
RESEARCH INTERESTS	Interested in preference learning, ranking to learn, and, more generally, incorporating human preferences and ranking systems into traditional machine learning fields such as reinforcement learning and generative models. Broadly interested in studying human decision making and its impacts from an interpretable and mathematically grounded perspective.	
EDUCATION	<b>Georgia Institute of Technology</b> , Atlanta, GA <i>Ph.D., Electrical and Computer Engineering</i> Aug. 2019 – Present Concentration: Digital Signal Processing and Machine Learning GPA: 4.0 Advisor: Dr. Mark Davenport  <b>University of Michigan</b> , Ann Arbor, MI <i>B.S.E, Electrical Engineering</i> , Summa Cum Laude Sept. 2015 – May 2019 Concentration: Digital Signal Processing GPA: 3.98	
CONFERENCE PUBLICATIONS	[1] <b>A. Xu</b> and M. A. Davenport, “Simultaneous Preference and Metric Learning from Paired Comparisons”, to appear in <i>Proc. Conf. on Neural Information Processing Systems (NeurIPS)</i> , Online, December 2020. <b>Selected for Spotlight Presentation (4%)</b>	
WORKSHOPS	<b>Gene Golub SIAM Summer School</b> July 2021 African Institute for Mathematical Sciences (AIMS)   Muizenberg, South Africa • Selected as one of 30 global participants for the “Theory and Practice of Deep Learning” summer school. Postponed to July 2021 due to COVID-19 pandemic.	
INDUSTRY EXPERIENCE	<b>Sandia National Laboratories</b> May 2018 - Aug. 2018 Undergraduate R&D Intern, Flight and Instrumentation Systems Group Albuquerque, NM • Developed features for GUI that communicates to FPGA and imaging array via SpaceWire/RMAP. Implemented modular design that incorporates hardware specific communication and file parsing. Optimized testing workflow for hardware changes, which enabled rapid future hardware prototyping. [C++, Qt Creator]. • Implemented internal image processing algorithm. Quantified algorithm accuracy under fixed point and floating point datatypes to determine hardware implementation viability. [Matlab].  <b>General Motors</b> May 2017 - Aug. 2017 Student Intern, Automated Driving and Active Safety Group Warren, MI • Collaborated with GM and tier 1 supplier to develop and implement supply-chain-wide thermal validation plan for rear view camera coaxial cable. Validation plan was integrated for all future rear view cameras. • Utilized internal software to de-warp rear view camera images to meet internal and government guidelines. Discovered discrepancy between test vehicle de-warping output and specifications, resulting in re-calibrated software update.	
TEACHING EXPERIENCE	<b>Graduate Teaching Assistant</b> Aug. 2019 - Present Professional and Technical Communications (ECE 3005)   <i>Georgia Institute of Technology</i> • Individually consulted with 20+ undergraduate students to develop their technical communication skills. Provided constructive feedback on resumes, technical documents, and presentations. • Interfaced with students during 15 hours of weekly office hours, graded assignments, and assisted with in-class activities.  <b>Instructional Aide</b> Sept. 2018 - May 2019 Discrete Mathematics (EECS 203)   <i>University of Michigan</i>	

- Interacted with groups of 20+ undergraduate students during weekly recitation section and office hours. Effectively answered questions, explained concepts, and solved guided practice problems. Achieved an instructor evaluation of 4.7/5.0.
- Managed group of 16 graders. Created weekly grading assignments and rubrics, proofread homework solutions, and enforced grading timeline.
- Created homework and exam problems in collaboration with 18 other staff members. Half of individually created exam problems were used on exams, which was highest rate among IAs.

AWARDS	<b>President's Fellowship</b>   Georgia Institute of Technology	Aug. 2019
	<b>Distinguished Academic Achievement Award</b>   University of Michigan	Mar. 2019
	<b>Outstanding Service Award, EECS Dept.</b>   University of Michigan	Feb. 2018
	<b>EECS Scholar</b>   University of Michigan	Feb. 2018
	<b>Eta Kappa Nu Scholarship</b>   University of Michigan	April 2017
	<b>James B. Angell Scholar</b>   University of Michigan	Mar. 2017
	<b>William J. Branstrom Freshman Prize</b>   University of Michigan	Mar. 2016
	<b>Dean's List/University Honors</b>   University of Michigan	All Semesters
SERVICE	<b>Undergraduate Engineering Student Advisory Board (UESAB)</b> <i>Electrical Engineering Representative</i>   University of Michigan	Sept. 2018 - May 2019
	<b>Eta Kappa Nu - Beta Epsilon Chapter</b> <i>Officer - Historian</i>   University of Michigan	Sept. 2018 - Dec. 2018
	<b>ECE Undergraduate Advising Office</b> <i>Peer Advisor</i>   University of Michigan	Sept. 2017 - Dec. 2018
	<b>STEM Society</b> <i>Laboratory Leader</i>   University of Michigan	Sept. 2017 - Dec 2018
	<b>Eta Kappa Nu - Beta Epsilon Chapter</b> <i>Tutoring Chair</i>   University of Michigan	Jan. 2018 - May 2018