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AMY XIAN ZHANG

RESEARCH INTERESTS

Social computing, CSCW, computational social science, human-computer interaction, data science, information visualization, natural language processing

EDUCATION

- 2014–2019 **Massachusetts Institute of Technology**, Cambridge, MA
Ph.D. Electrical Engineering and Computer Science
Working Thesis: *Systems to Improve Online Discussion*
Advisor: David Karger
- 2011–2012 **University of Cambridge**, Cambridge, UK
M.Phil. Advanced Computer Science, Graduated with Distinction
Thesis: *Defining and Characterizing Urban Neighborhoods using Location-based Social Media*
Advisor: Cecilia Mascolo
- 2017–2011 **Rutgers University**, New Brunswick, NJ
B.S. Computer Science, Summa Cum Laude
Thesis: *Time Series Analysis of Twitter with Hadoop*
Advisor: Mor Naaman

AWARDS & HONORS

- 2016–2019 Google Research PhD Fellowship
2015 Best Paper Honorable Mention, ACM CHI
2014–2017 National Science Foundation Graduate Research Fellowship
2011–2012 Gates Cambridge Scholarship
2011 Novelli Award (awarded to top senior in CS by Rutgers CS Faculty)
2010 Madgison Award (awarded to top junior in CS by Rutgers CS Faculty)
2007–2011 Rutgers University Presidential Scholarship (full academic scholarship)

PUBLICATIONS

Refereed Conference Papers

- [c.13] Kaitlin Mahar, **Amy X. Zhang**, David Karger. Squadbox: A Tool to Combat Email Harassment Using Friendsourced Moderation. *ACM Conference on Human Factors in Computing Systems (CHI '18)*. Montreal, Canada. April 2018. [26% Acceptance Rate]
- [c.12] **Amy X. Zhang**, Bryan Culbertson, Praveen Paritosh. Characterizing Online Discussion Using Coarse Discourse Structures. *AAAI International Conference on Weblogs and Social Media (ICWSM '17)*. Montreal, Canada. May 2017. [14% Acceptance Rate]
- [c.11] **Amy X. Zhang**, Lea Verou, David Karger. Wikum: Bridging Discussion Forums and Wikis Using Recursive Summarization. *ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '17)*. Portland, Oregon. Feb 2017. [34% Acceptance Rate]
- [c.10] Lea Verou, **Amy X. Zhang**, David Karger. Mavo: Creating Interactive Data-Driven Web Applications by Authoring HTML. *ACM User Interface Software and Technology Symposium (UIST '16)*. Tokyo,

Japan. Oct 2016. [21% Acceptance Rate]

- [c.9] **Amy X. Zhang**, Scott Counts. Gender and Ideology in the Spread of Anti-Abortion Policy. *ACM Conference on Human Factors in Computing Systems (CHI '16)*. San Jose, CA. April 2016. [23% Acceptance Rate]
- [c.8] **Amy X. Zhang**, Joshua Blum, David Karger. Opportunities and Challenges Around a Tool for Social and Public Web Activity Tracking. *ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '16)*. San Francisco, CA. Feb. 2016. [25% Acceptance Rate]
- [c.7] **Amy X. Zhang**, Scott Counts. Modeling Ideology and Predicting Policy Change with Social Media: Case of Same-Sex Marriage. *ACM Conference on Human Factors in Computing Systems (CHI '15)*. Seoul, Korea. April 2015. [23% Acceptance Rate]. **Best of CHI Honorable Mention - Top 5% of Submissions.**
- [c.6] **Amy X. Zhang**, Mark S. Ackerman, David R. Karger. Mailing Lists: Why Are They Still Here, What's Wrong With Them, and How Can We Fix Them? *ACM Conference on Human Factors in Computing Systems (CHI '15)*. Seoul, Korea. April 2015. [23% Acceptance Rate].
- [c.5] Edward Benson, **Amy X. Zhang**, David R. Karger. Spreadsheet Driven Web Applications. *ACM User Interface Software and Technology Symposium (UIST '14)*. Honolulu, Hawaii. Oct 2014. [22% Acceptance Rate]
- [c.4] Juho Kim, **Amy X. Zhang**, Jihee Kim, Robert Miller, Krzysztof Gajos. Content-Aware Kinetic Scrolling for Supporting Web Page Navigation. *ACM User Interface Software and Technology Symposium (UIST '14)*. Honolulu, Hawaii. Oct 2014. [22% Acceptance Rate].
- [c.3] Nick Diakopoulos, **Amy X. Zhang**, Dag Elgesem, Andrew Salway. Identifying and Analyzing Moral Evaluation Frames in Climate Change Blog Discourse. *AAAI International Conference on Weblogs and Social Media (ICWSM '14)*. Ann Arbor, MI. June 2014. [41% Acceptance Rate].
- [c.2] **Amy X. Zhang**, Anastasios Noulas, Salvatore Scellato, Cecilia Mascolo. Hoodsquare: Modeling and Recommending Neighborhoods in Location-based Social Networks. *ASE/IEEE International Conference on Social Computing (SocialCom '13)*. Washington, D.C. June 2013. [9.9% Acceptance Rate].
- [c.1] Mor Naaman, **Amy X. Zhang**, Sam Brody, Gilad Lotan. On the Study of Diurnal Urban Routines on Twitter. *AAAI International Conference on Weblogs and Social Media (ICWSM '12)*. Dublin, Ireland. June 2012. [20% Acceptance Rate].

Refereed Journal Articles

- [j.2] **Amy X. Zhang**, Jilin Chen, Wei Chai, Jinjun Xu, Lichan Hong, Ed Chi. Evaluation and Refinement of Clustered Search Results with the Crowd. *ACM Transactions on Interactive Intelligent Systems: Special Issue on Human-Centered Machine Learning*. (to appear in 2018).
- [j.1] **Amy X. Zhang**, Anastasios Noulas, Salvatore Scellato, Cecilia Mascolo. Hoodsquare: Modeling and Recommending Neighborhoods in Location-based Social Networks. *ASE Human Journal*. 2.01 (2013): pp 40-54. [3.8% Acceptance Rate]. Invited Publication.

Refereed Workshop, Demo, Poster, and Doctoral Symposium Papers

- [w.9] **Amy X. Zhang**. Systems to Improve Online Discussion. *ACM User Interface Software and Technology Symposium (UIST '17)*. Quebec City, Canada. Oct 2017. Doctoral Symposium.
- [w.8] **Amy X. Zhang**, David Karger. Bridging Discussions and Wikis using Recursive Summarization. *ACM Collective Intelligence*. New York, NY. June 2017. Poster Paper.

- [w.7] **Amy X. Zhang**, Michele Igo, Marc Facciotti, David Karger. Using Student Annotated Hashtags and Emojis to Collect Nuanced Affective States. *ACM Learning @ Scale (L@S '17)*. Boston, MA. Poster Paper.
- [w.6] **Amy X. Zhang**, Joshua Blum, David Karger. Reimagining Web Activity Tracking for Social Applications. *Everyday Surveillance Workshop at ACM Conference on Human Factors in Computing Systems (CHI '16)*. San Francisco, CA. Workshop Paper.
- [w.5] **Amy X. Zhang**, David Karger, Anant Bhardwaj. Confer: A Conference Recommendation and Meetup Tool. *ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '16)*. San Francisco, CA. Integrated Demo Paper.
- [w.4] **Amy X. Zhang**, Joshua Blum, David Karger. Eyebrowse: Selective and Public Web Activity Sharing. *ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '16)*. San Francisco, CA. Integrated Demo Paper.
- [w.3] Nick Diakopoulos, Dag Elgesem, Andrew Salway, **Amy X. Zhang**, Knuf Hofland. Compare Clouds: Visualizing Text Corpora to Compare Media Frames. *ACM Intelligent User Interfaces Workshop on Visual Text Analytics (TextVis @ IUI '15)*. Atlanta, Georgia. March 2015.
- [w.2] Yelena Mejova, **Amy X. Zhang**, Nicholas Diakopoulos, Carlos Castillo. Controversy and Sentiment in Online News. *3rd Computation + Journalism Symposium (C+J '14)*. New York, NY. October 2014.
- [w.1] Nick Diakopoulos, **Amy X. Zhang**, Andrew Salway. Visual Analytics of Media Frames in Online News and Blogs. *IEEE InfoVis Workshop on Interactive Visual Text Analytics (TextVis @ InfoVis '13)*. Atlanta, Georgia. October 2013.

Patents

- [p.2] **Amy X. Zhang**, Justin Cranshaw. Human-Machine Interface for Collaborative Summarization of Group Conversations. Microsoft Research. Filed 2017.
- [p.1] **Amy X. Zhang**, Jilin Chen, Sagar Jain, Lichan Hong, Ed Chi. Crowdsourced Evaluation and Refinement of Search Clusters. Google Research. Filed 2016.

PROFESSIONAL EXPERIENCE

- 2014–2019 Graduate Research Assistant, **MIT CSAIL**, Cambridge, MA
 Researching the way we conduct discourse and share information on the Internet, and creating interfaces and systems to facilitate new or better ways of interaction. [c.13][c.11][c.8][c.6][w.9][w.8][w.7][w.6][w.5][w.4]
Advisor: David Karger
- Summer 2017 Research Intern, **Microsoft FUSE Labs, Microsoft**, Redmond, WA
 Understanding group chat conversations and users' desires for summarization. Building a chat summarization tool to help people who participate in group chat but miss conversations.
Advisor: Justin Cranshaw, Andrés Monroy-Hernández
- Summer 2016 Research Intern, **Queriosity Group, Google Research**, Mountain View, CA
 Characterized and extracted discourse acts from online forums for better question-answering systems and forum results in Search. Released public dataset. Featured on Google Research blog. [c.12]
Advisor: Bryan Culbertson, Praveen Paritosh
- Summer 2015 Research Intern, **SIR Group, Google Research**, Mountain View, CA

Exploring using crowd work to evaluate and refine clusters, specifically in the context of clustered search results on the Google Play app store. [j.2]

Advisor: Jilin Chen, Lidhan Hong, Ed Chi

- Summer 2014 Research Intern, **neXus Group, Microsoft Research**, Redmond, WA
Identifying population-level ideological shifts and predicting policy change at the state level from expressions made on Twitter by constituents. Case study of same-sex marriage and abortion. [c.7][c.9]
Advisor: Scott Counts
- 2012–2014 Software Engineer, **NewsCred**, New York, NY
Backend engineer overseeing production API receiving 15 million+ hits/day delivering relevant news content and search indexes and databases storing over 150 million artifacts. Owner of image system and real-time analytics system serving 10 million+ images/day. Research Project LingoScope: visualization tool to be able to compare framing differences between news sources on issues. [c.3][w.1][w.2][w.3]
- 2011–2012 Masters Research Assistant, **Cambridge Computer Laboratory**, Cambridge, UK
Defining geographic neighborhoods in urban cities using density-based spatial clustering, based on Foursquare data, including place categories, local/tourist, and temporal traffic. [c.2][j.1]
Advisor: Salvatore Scellato, Anastasios Noulas, Cecilia Mascolo
- Summer 2011 Research Assistant, **Yahoo! Research Labs**, New York, NY
Using Twitter Firehose data, built largest known dataset of tweets geo-tagged for 58 cities. Analyzed the aggregate temporal patterns of top 10,000 terms in each city and developed statistical measures to determine keywords that demonstrate robust diurnal patterns. [c.1]
Advisor: Mor Naaman, Jake Hofman
- 2010–2011 Research Assistant, **Rutgers Social Media and Information Lab**, New Brunswick, NJ
Built a Hadoop framework to quickly query large quantities of Twitter data for temporal patterns.
Advisor: Mor Naaman

TEACHING

- Spring 2018 Instructor, **6.813: User Interface Design**, MIT CSAIL
Instructor for a flipped, project-based user interface design and programming course, with 250 students enrolled and overseeing 6 TAs. Leading graduate research reading seminar.
- Spring 2017 Teaching Assistant, **6.813: User Interface Design**, MIT CSAIL
Graduate TA for a flipped, project-based user interface design and programming course, with 250 students enrolled. Leading graduate research reading seminar and one undergraduate section.
- Fall 2009 Instructor, **Exploring Computer Science Seminar**, Rutgers University
Instructed for-credit class of 18 freshmen on introductory computer science topics. Individually designed syllabus and lesson plans, distributed grades, and arranged for trip to Google NYC.

INVITED TALKS

- 2017 **Computation + Journalism Conference**, Northwestern, Evanston, IL
Panel: “Commenting and Community Engagement: New Approaches” with NYTimes, Hearken
Microsoft Research Information and Data Sciences Group (CLUES), Redmond, WA
Tilda: A Tool for Summarizing Chat Conversations
Microsoft FUSE Labs, Redmond, WA

- Tilda: A Tool for Summarizing Chat Conversations
Microsoft Research HCI Seminar, Redmond, WA
 Tilda: A Tool for Summarizing Chat Conversations
Chartbeat, New York, NY
 Characterizing Online Discussion Using Coarse Discourse Structures
Hacks/Hackers and Meedan Credibility Working Group, New York, NY
 Considering End Users in the Design of News Credibility Annotations
MIT Center for Civic Media, Cambridge, MA
 Online Harassment, Gender Equality Policy, and Scaling Understanding on the Web
 2016 **Wikimedia Foundation Research Showcase**, San Francisco, CA
 Designing and Building Online Discussion Systems
Common Sense Group, Google Research, Mountain View, CA
 Uncovering Question and Answer Content from Forums
Google PhD Fellowship Summit, Mountain View, CA
 Research at the Intersection of HCI and Machine Intelligence
Adobe Research, San Jose, CA
 Re-imagining Web Activity Tracking for Personal and Social Benefits
Stanford HCI Seminar, Palo Alto, CA
 Designing and Building Online Discussion Systems
MIT CSAIL Graphics Group, Cambridge, MA
 Discussions on the Web: Understanding and Design
Boston University Image and Video Computing Group, Boston, MA
 Human Evaluation and Refinement of Search Clusters
 2015 **Google Research**, Mountain View, CA
 Refinery: Cluster Evaluation and Refinement using Crowd Workers for Mobile App Search
Harvard Berkman Center Cooperation Group, Cambridge, MA
 Mailing Lists: Why Are They Still Here, What's Wrong With Them, How Can We Fix Them?
 2014 **MSR neXus Group**, Redmond, WA
 Modeling Ideology and Predicting Policy Change with Social Media: Case of Same-Sex Marriage

SERVICE

- Steering Committee**
 2017–2019 ACM CSCW
- Organizing Committee**
 2016 ACM RecSys Student Volunteer Co-Chair
- Program Committee**
 2018 ACM CHI
 ACM SIGIR
 ACM CHIIR
 AAAI ICWSM
 WWW Misinformation Track
 ACM RecSys Posters and Demos
 ACM IUI Posters and Demos
 2017 AAAI ICWSM
 ACM RecSys Posters
 2016 ACM CHI Late-Breaking Work

- 2014 AAAI ICWSM
ACM RecSys Posters
AAAI ICWSM
- Reviewer**
CHI 2015-18, CSCW 2015-18, RecSys 2016-18, CHIIR 2018, IUI 2018, ICWSM 2014, 16-17, UIST 2016, UbiComp 2014
- Recognized for Excellence in Reviewing**
CSCW 2015, CHI 2016-17
- Student Volunteer**
CSCW 2016, UIST 2016
- Website**
Organized Confer conference schedule manager for 10+ conferences
- 2018 **Local Service**
MIT CSAIL graduate admissions committee
Co-organizer of Boston CHI Labs
- 2017 MIT CSAIL graduate admissions committee
MIT CSAIL website redesign committee
Co-organizer of MIT CSAIL HCI Seminar Series
Co-organizer of Boston CHI Labs
- MENTORING
- Research Mentor to MIT Masters students**
- 2018 Prateek Kukreja, MEng Computer Science, 2018. Working on Eyebrowse Project.
- 2017 Kaitlin Mahar, MEng Computer Science, 2017. "Squadbox: A Tool to Combat Email Harassment Using Friendsourced Moderation". Now at MongoDB. Published at CHI 2018 [c.13].
Jessica Wang, MEng Computer Science, "A system for generating empathy across ideological divides by surfacing moral framing in news". Now at UnifyID.
- Research Mentor to MIT undergraduates**
- 2018 Helen He, Kifle Woldu (SuperUROD), Julia Wu
- 2017 Jane Im, Sunny Tian, Oliver Dunkley, Deepankar Gupta
- 2016 Kelly Zhang, Joy Yu, Joshua Blum (now at B12.io)
- 2015 Bradley Eckert
- 2013–2017 Resident Tutor, **Cabot House, Harvard University**, Cambridge, MA
Perform residential duties at undergrad house of 200+ students, including study breaks, on-call help. 4 hours weekly of career advising, computer science tutoring, event planning. Individual mentorship paired with 7 incoming sophomores each year.
- OUTREACH & COLLABORATIONS
- Spring 2018 Member, **Berkman Klein - MIT Media Lab AI Assembly**, Cambridge, MA
Selected to participate in a semester-long collaborative development project to explore problems in AI and governance.
- Nov 2017 Coordinator, **Collective Intelligence for Democracy, MediaLab-Prado**, Madrid, ESP

- Led a team of 7 people in a two-week hackathon on the Wikum project [c.11]. Demoed to Decide Madrid creators and Madrid city council. Presentation at Democratic Cities conference.
- Oct 29 2017 Facilitator, **Designing Against Online Harassment, Mozilla Festival**, London, UK
Co-facilitated design workshop on combating online harassment with 20 participants.
- Oct 28 2017 Facilitator, **Tackling the Misinformation Problem, Mozilla Festival**, London, UK
Co-facilitated workshop on tackling misinformation with 50 participants, organized by Meedan and Hacks/Hackers.
- Sept-Dec 2017 Participant, **Mozilla Open Leaders Program**, Online
Received weekly training and mentorship on open source leadership on the Squadbox project.
- 2016-2017 Co-Organizer, **CODEX Literary Hackathon, MIT Media Lab**, Cambridge, MA
Helped organize 2-day hackathon for 100 people on the topic of literature and technology.
- Jan 24 2015 Facilitator, **HackLearning Design Workshop**, MIT, Cambridge, MA
Taught user interface design course to 30 students at workshop sponsored by Accenture.

LEADERSHIP

- 2014- Volunteer Assistant Coach, **MIT Varsity Women's Tennis Team**, Cambridge, MA
- 2011-2012 1st Team, **Cambridge Varsity Tennis Women's Blues Squad**, Cambridge, MA
4 practices/week, weekly competitions in the UK and Portugal, defeated Oxford at Varsity Match.
- 2007-2011 President, **Women in Computer Science at Rutgers**, New Brunswick, NJ
Organized career, social, and tutoring events and fundraising for Nigerian nonprofit W.TEC.
- 2007-2011 Captain, 1st position, **Rutgers Division I Varsity Women's Tennis Team**, New Brunswick, NJ
Led team of 8 players for 3 hours/day practices, weekly competitions, and travel. Big East.
- 2009-2011 Executive Board, **Rutgers Student-Athlete Advisory Committee**, New Brunswick, NJ
Organized volunteer, social events for student-athletes: soup kitchen, toy drive, and fundraising.

ATHLETIC & SPORTSMANSHIP/LEADERSHIP AWARDS

- 2012 Awarded a Full Blue for defeating Oxford at Annual Oxbridge Varsity
- 2011 National ITA/Arthur Ashe Jr. Sportsmanship and Leadership Award (presented at U.S. Open)
Academic National All-American 3rd Team
Big East Postgraduate Leadership Award - \$7,500
Big East Scholar Athlete of the Year - \$7,000
Rutgers Athletic Dept. Headley-Singer Award, Sonny Werblin Award, and Leadership Award
Voted Captain of the Tennis Team
Ranked nationally in doubles, regionally in the Northeast U.S. in singles
- 2010 Voted Most Valuable Player
NJ Assoc. of Intercollegiate Athletics for Women – Rutgers Woman of the Year
Big East Sport Excellence Award
ITA Scholar-Athlete
All-Big East Team Selection
- 2009 ITA Scholar-Athlete
All-Big East Team Selection
Rutgers Representative at NCAA National Student-Athlete Development Conference
NJ Division I, II Female Athlete of the Year
- 2008 ITA Scholar-Athlete

Rutgers Freshman Athlete of the Year
Awarded Full Athletic Scholarship to Rutgers