Amy Xian Zhang

552 Cabot Mail Center, Cambridge, MA 02138
646-657-8269 – axz@mit.edu – http://people.csail.mit.edu/axz

Research Interests

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

Education

Massachusetts Institute of Technology, Cambridge, MA — Jan 2014 – Present
Ph.D. Computer Science
Computer Science Artificial Intelligence Lab: Haystack Group and UID Group
Advisor: David Karger

Courses: 6.864: Advanced Natural Language Processing, 6.830: Database Systems, 6.840: Theory of Computation, 6.813: User Interface Design, MAS.700 Future of News and Participatory Media

University of Cambridge, Cambridge, UK — Oct 2011 – June 2012
M.Phil. Advanced Computer Science — Graduated with Distinction
Networks and Operating Systems Group
Advisor: Cecilia Mascolo
Thesis: Defining and Characterizing Urban Neighborhoods using Location-based Social Media

Courses: Intro to Natural Language Processing, Word Meaning and Discourse Understanding, Innovative User Interfaces, Machine Learning for Language Processing, Social and Technological Network Analysis

Rutgers University, New Brunswick, NJ — Sept 2007 – May 2011
B.S. Computer Science, Minor: Mathematics, Economics — Summa Cum Laude
Social Media Information Lab
Advisor: Mor Naaman
Thesis: Time Series Analysis of Twitter with Hadoop

Selected Awards and Honors

CHI Best Paper Honorable Mention 2015
NSF Graduate Research Fellowship 2014-17
Gates Cambridge Scholar 2011-12
Novelli Award (awarded to top senior in CS by Rutgers CS Faculty) 2010-11
Madgison Award (awarded to top junior in CS by Rutgers CS Faculty) 2009-10
Rutgers University Presidential Scholarship (full academic scholarship) 2007-11

PUBLICATIONS

Refereed Conference Papers

[c.9] **Amy X. Zhang**, Scott Counts. Gender and Ideology in the Spread of Anti-Abortion Policy. *In Proceedings of the ACM Conference on Human Factors in Computing Systems* (CHI 2016). San Jose, CA. April 2016. Acceptance rate: 23%

[c.8] **Amy X. Zhang**, Joshua Blum, David Karger. Opportunities and Challenges Around a Tool for Social and Public Web Activity Tracking. *In Proceedings of the ACM Conference on Computer Supported Cooperative Work and Social Computing* (CSCW 2016). San Francisco, CA. February 2016. Acceptance rate: 25%

[c.7] **Amy X. Zhang**, Scott Counts. Modeling Ideology and Predicting Policy Change with Social Media: Case of Same-Sex Marriage. *In Proceedings of the ACM Conference on Human Factors in Computing Systems* (CHI 2015). Seoul, Korea. April 2015. Acceptance rate: 23%. **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? *In Proceedings of the ACM Conference on Human Factors in Computing Systems* (CHI 2015). Seoul, Korea. April 2015. Acceptance rate: 23%.

[c.5] Edward Benson, **Amy X. Zhang**, David R. Karger. Spreadsheet Driven Web Applications. *In Proceedings of the ACM User Interface Software and Technology Symposium* (UIST 2014). Honolulu, Hawaii. Oct 2014. Acceptance rate: 22%

[c.4] Juho Kim, **Amy X. Zhang**, Jihee Kim, Robert Miller, Krzysztof Gajos. Content-Aware Kinetic Scrolling for Supporting Web Page Navigation. *In Proceedings of the ACM User Interface Software and Technology Symposium* (UIST 2014). Honolulu, Hawaii. Oct 2014. Acceptance rate: 22%.

[c.3] Nick Diakopoulos, **Amy X. Zhang**, Dag Elgesem, Andrew Salway. Identifying and Analyzing Moral Evaluation Frames in Climate Change Blog Discourse. *In Proceedings of the International AAAI Conference on Weblogs and Social Media* (ICWSM '14). Ann Arbor, MI. June 2014. Acceptance rate: 41%.

[c.2] **Amy X. Zhang**, Anastasios Noulas, Salvatore Scellato, Cecilia Mascolo. Hoodsquare: Modeling and Recommending Neighborhoods in Location-based Social Networks. *In Proceedings of the International ASE/IEEE Conference on Social Computing* (SocialCom '13). Washington, D.C. June 2013. Acceptance rate: 9.9%.

[c.1] Mor Naaman, **Amy X. Zhang**, Sam Brody, Gilad Lotan. On the Study of Diurnal Urban Routines on Twitter. *In Proceedings of the International AAAI Conference on Weblogs and Social Media* (ICWSM '12). Dublin, Ireland. June 2012. Acceptance rate: 20%.

Refereed Journal Articles

[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. Acceptance rate: 3.8%. **Invited Publication.**

Refereed Abstracts, Demos, and Workshop Papers

[w.6] **Amy X. Zhang**, Joshua Blum, David Karger. Reimagining Web Activity Tracking for Social Applications.. *In Proceedings of the Everyday Surveillance Workshop at ACM Conference on Human Factors in Computing Systems* (CHI 2016). San Francisco, CA. Workshop Paper

[w.5] **Amy X. Zhang**, David Karger, Anant Bhardwaj. Confer: A Conference Recommendation and Meetup Tool. *In Proceedings of the ACM Conference on Computer Supported Cooperative Work and Social Computing* (CSCW 2016). San Francisco, CA. Integrated Demo Paper.

[w.4] **Amy X. Zhang**, Joshua Blum, David Karger. Eyebrowse: Selective and Public Web Activity Sharing. *In Proceedings of the ACM Conference on Computer Supported Cooperative Work and Social Computing* (CSCW 2016). San Francisco, CA. Integrated Demo Paper.

[w.3] Nick Diakopolous, Dag Elgesem, Andrew Salway, **Amy X. Zhang**, Knuf Hofland. Compare Clouds: Visualizing Text Corpora to Compare Media Frames. *In Proceedings of 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. *In Proceedings of the 3rd Computation + Journalism Symposium* (C+J '14). New York, NY. October 2014.

[w.1] Nick Diakopolous, **Amy X. Zhang**, Andrew Salway. Visual Analytics of Media Frames in Online News and Blogs. *In Proceedings of the IEEE InfoVis Workshop on Interactive Visual Text Analytics* (TextVis @ InfoVis '13). Atlanta, Georgia. October 2013.

RESEARCH EXPERIENCE

Graduate Student, MIT CSAIL, Cambridge, MA — Jan 2014 – Present
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. Projects include Eyebrowse: social web browsing, and Murmur: a mailing list and social media hybrid system. [c.6][c.8][w.4][w.5][w.6]
Advisor: David Karger

Research Intern, SIR Group, Google Research, Mountain View, CA — May 2015 – Aug 2015
Exploring using crowd work to evaluate and refine clusters, specifically in the context of clustered search results on the Google Play app store.
Advisor: Jilin Chen, Lichan Hong, Ed Chi

Research Intern, neXus Group, Microsoft Research, Redmond, WA — June 2014 – Sept 2014
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

Researcher, NewsCred, New York, NY — Sept 2012 – Jan 2014
Project LingoScope: visualization tool to be able to compare framing differences between news sources on issues. Organized and aggregated dataset of over 1.5 million articles from 14 news sources. Aggregated additional 1.4 million blog posts related to climate change. [c.3][w.1][w.2][w.3]

Masters Student, Cambridge Computer Laboratory, Cambridge, UK Nov 2011 – Sept 2012
Defining geographic neighborhoods in urban cities using density-based spatial clustering, based on different characteristics of Foursquare data, including place categories, local/tourist, and temporal traffic. Conducted user studies, built web visualization, and built neighborhood recommendation system given a user's Twitter profile information. [c.2][j.1]
Advisor: Salvatore Scellato, Anastasios Noulas, Cecilia Mascolo

Research Assistant, Yahoo! Research Labs, New York, NY May 2011 – Sept 2011
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

Thesis, Rutgers Social Media and Information Lab, New Brunswick, NJ Sept 2010 – May 2011
Built a Hadoop framework to quickly query large quantities of Twitter data for temporal patterns
Advisor: Mor Naaman

Research Assistant, Rutgers Computer Vision Lab, New Brunswick, NJ Sept 2009 – May 2010
Worked in team to detect and track faces in video and then identify faces from a database of people.
Worked on constructing a high-resolution face from low-resolution faces taken from video stills.
Advisor: Vladimir Pavlovic

WORK EXPERIENCE

Software Engineer, NewsCred, New York, NY Sept 2012 – Jan 2014
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
Lead backend developer on migration of acquired startup Daylife – built new API serving 25 million requests/day.

TEACHING

Instructor, "Exploring Computer Science Seminar," Rutgers University Sept 2009 – Dec 2009
Instructed class of 18 freshmen on introductory computer science topics for university credit.
Individually designed syllabus and lesson plans, distributed grades, and arranged for trip to Google NYC.

TALKS

Boston University Image and Video Computing Group, Boston, MA Feb 2016
Human Evaluation and Refinement of Search Clusters

Google Research, Mountain View, CA Aug 2015
Refinery: Cluster Evaluation and Refinement using Crowd Workers for Mobile App Search.

Harvard Berkman Center Cooperation Group, Cambridge, MA March 2015
Mailing Lists: Why Are They Still Here, What's Wrong With Them, and How Can We Fix Them?

MSR neXus Group, Redmond, WA Sept 2014
Modeling Ideology and Predicting Policy Change with Social Media: Case of Same-Sex Marriage

PATENTS

Google Research — Filed Jan 2016

Jilin Chen, **Amy X. Zhang**, Sagar Jain, Lichan Hong, Ed Chi. "Crowdsourced Evaluation and Refinement of Search Clusters"

OTHER AWARDS AND HONORS

Microsoft Research Travel Grant to CHI 2015
ICWSM 2014 Student Grant Award

SERVICE

Chair: Student Volunteer Co-Chair – RecSys 2016
Associate Chair: CHI Late-Breaking Work 2016
Program Committee: ICWSM 2014, ICWSM 2016
Reviewer: CHI 2015-16, CSCW 2015-16, UbiComp 2014, ICWSM 2014, ICWSM 2016
Recognized for Excellence in Reviewing: CSCW 2015, CHI 2016
Student Volunteer: CSCW 2016
Member: ACM, ACM SIGCHI, ASE, IEEE, AAAI

Mentoring

Research Mentor to MIT undergraduates — Sept 2014 – Present
- Spring 2016: Kaitlin Mahar, UAP, Murmur Project
- Fall 2015 – Spring 2016: Kelly Zhang, UROP, Eyebrowse Project
- Spring 2015 – Spring 2016: Joy Yu, UROP, Murmur Project
- Fall 2014 – Bradley Eckert, UAP, Eyebrowse Project

Resident Tutor, Cabot House, Harvard University — Aug 2013 – Present
- 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

Peer Mentor, C.S. Tutor, School of Arts and Sciences Honors Program, Rutgers — Jan 2008 – May 2011

Hackathons

Co-organized CODEX Literary Hackathon at MIT Media Lab — Jan 8-10th 2016
2nd place prize at Hacking iCorruption at MIT Media Lab and Harvard — Mar 28th 2015
Taught user interface design course to HackLearning workshop at MIT — Jan 24th 2015

Leadership

Volunteer Assistant Coach, MIT Varsity Women's Tennis Team — Sept 2014 – Present
1st Team, Cambridge Varsity Tennis Women's Blues Squad — Oct 2011 – July 2012
- 4 practices/week, weekly competitions in the UK and Portugal, defeated Oxford at Varsity Match

President, Women in Computer Science at Rutgers — Sept 2007 – May 2011
- Organized career, social, and tutoring events and fundraising for Nigerian nonprofit W.TEC

Captain, 1st position, Rutgers Division I Varsity Women's Tennis Team — Sept 2007 – May 2011
- Led team of 8 student-athletes through 3 hours/day practice, weekly competitions and travel

Executive Board, Rutgers Student-Athlete Advisory Committee — Jan 2009 – May 2011
- Organized volunteer and social events for student-athletes: soup kitchen, toy drive, and fundraising

TECHNICAL SKILLS

Languages:	Experienced: Python, Java, C Familiar: Pig, x86 Assembly, Prolog, Scheme, C++, C#, Matlab
Front-end:	HTML, CSS, Javascript, jQuery, Backbone.js, PHP, JSP
Data Analysis:	matplotlib, scikit-learn, NetworkX, R, nltk
Apps/Libraries:	Django, RabbitMQ, Celery, Apache Solr, Apache Hadoop, ElasticSearch, OpenStack, AWS EC2, S3, browser extensions, Android apps, Puppet, Bootstrap
Databases:	MySQL, MongoDB, PostgreSQL, IndexedDB, DynamoDB, Redis, CouchBase
OS:	Windows, Linux (Ubuntu), Mac OSX

ATHLETIC AND SPORTSMANSHIP/LEADERSHIP AWARDS

Awarded a Full Blue for defeating Oxford at Annual Oxbridge Varsity Match 2012
National ITA/Arthur Ashe Jr. Sportsmanship and Leadership Award 2011
Academic National All-American 3rd Team 2011
Big East Postgraduate Leadership Award 2011 - $7,500
Big East Scholar Athlete of the Year 2011 - $7,000
Rutgers Athletic Dept. Headley-Singer Award, Sonny Werblin Award, and Leadership Award 2011
Voted Captain of the Tennis Team 2010-11, Most Valuable Player 2009-10
Ranked nationally in doubles, regionally in the Northeast US in singles
NJ Assoc. of Intercollegiate Athletics for Women – Rutgers Woman of the Year 2010
Big East Sport Excellence Award 2009-10
ITA Scholar-Athlete 2007-10
All-Big East Team Selection 2009, 2010
Rutgers Representative at NCAA National Student-Athlete Development Conference, May 2009
NJ Division I, II Female Athlete of the Year 2009
Rutgers Freshman Athlete of the Year 2007-08
Awarded Full Athletic Scholarship to Rutgers 2007-11