Dhanya Sridhar

CONTACT INFORMATION

Mudd Building
Data Science Institute
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RESEARCH EXPERIENCE

Columbia University Data Science Institute

Postdoctoral Researcher **Fall 2018 – Present**

Causal inference with text, networks and social science data, supervised by David Blei

University of California Santa Cruz

Graduate Student Researcher **Fall 2013 – Summer 2018**

Structured probabilistic models for prediction, causal discovery, and complex learning in social and biological science domains

EDUCATION

Ph.D. Computer Science

University of California Santa Cruz (September 2013 – August 31, 2018)

- *Thesis topic*: Learning Structured and Causal Probabilistic Models for Computational Science
- *Thesis Advisor*: Prof. Lise Getoor

B.S. Computer Science, B.A. Mathematics

Binghamton University (August 2009 – May 2013)

- *Distinction*: Graduated with High University Honors and Department Honors

HONORS

President's Dissertation-Year Fellowship, UC Santa Cruz, 2017.
Outstanding Teaching Assistant Award, UC Santa Cruz, 2016.
Advancement to Candidacy with Honors, UC Santa Cruz, 2016.
Graduate Student Fellowship Honorable Mention, National Science Foundation, 2015.
Regents' Fellowship, UC Santa Cruz, 2013.
Academic Achievement Honor for Computer Science, Binghamton University, 2013.
Research in Science and Engineering Scholarship, German Academic Exchange Service, 2012.
Thomas J. Watson Memorial Scholarship, IBM Corporation, 2009.

THESIS

"Learning Structured and Causal Probabilistic Models for Computational Science."

JOURNAL ARTICLES

Dhanya Sridhar, Shobeir Fakhraei, Lise Getoor."A Probabilistic Approach for Collective Similarity-based Drug-Drug Interaction Prediction." *Bioinformatics*. doi:10.1093/bioinformatics/btw342. 2016. [Impact Factor: 5.76]

REFEREED CONFERENCES

Dhanya Sridhar, Lise Getoor. "Estimating Causal Effects of Tone in Online Debates." In Submission.

Yixin Wang, **Dhanya Sridhar**, David Blei. "Equal Opportunties and Affirmative Action via Counterfactual Predictions." In Submission.

Dhanya Sridhar, Jay Pujara, Lise Getoor. "Scalable Probabilistic Causal Structure Discovery." International Joint Conference of Artificial Intelligence (IJCAI). 2018. [Accepted for Oral Presentation]

Yue Zhang, Arti Ramesh, Jennifer Golbeck, Dhanya Sridhar, Lise Getoor. "A Structured Approach to Understanding Recovery and Relapse in AA." The Web Conference (WWW). 2018.

Dhanya Sridhar, James Foulds, Bert Huang, Lise Getoor, Marilyn Walker. "Joint Models of Disagreement and Stance." *Annual Meeting of the Association for Computational Linguistics (ACL)*, 2015. [Accepted for Oral Presentation]

Refereed Workshops and Symposia

Dhanya Sridhar, Varun Embar, Golnoosh Farnadi and Lise Getoor. "Scalable Structure Learning for Probabilistic Soft Logic." In IJCAI/ICML Workshop on Statistical Relational AI. 2018.

Dhanya Sridhar, Aaron Springer, Victoria Hollis, Steve Whittaker, Lise Getoor. "Estimating Causal Effects of Exercise from Mood Logging Data." In IJCAI/ICML Workshop on CausalML, 2018.

Dhanya Sridhar, Jay Pujara, Lise Getoor. "Using Noisy Extractions to Discover Causal Knowledge." NIPS Workshop on Automated Knowledge Base Construction. 2017.

Dhanya Sridhar, Jay Pujara, Lise Getoor. "A Scalable Probabilistic Approach for Causal Structure Discovery." Women in Machine Learning Workshop. 2017.

Dhanya Sridhar, Lise Getoor. "Joint Probabilistic Inference of Causal Structure." *ACM SIGKDD Workshop on Causal Discovery*, 2016. [Accepted for Oral Presentation]

Dhanya Sridhar, Lise Getoor, Marilyn Walker. "Collective Stance Classification of Posts in Online Debate Forums." *ACL Workshop on Latent Attributes in Social Media*, 2014.

Invited Talks

Dhanya Sridhar. "Structured Probabilistic Models for Online Dialogue and Text." *Stanford University NLP Seminar*, 2018.

Dhanya Sridhar. "Learning Structured and Causal Probabilistic Models for Computational Science." *Columbia University*, 2018.

Dhanya Sridhar. "Structured Probabilistic Models for Computational Social Science." *Microsoft Research NYC*, 2018.

Dhanya Sridhar. "Probabilistic Soft Logic: A Scalable Open-Source Framework for Richly Structured Models." *Santa Cruz Machine Learning Cooperative*, 2017.

Dhanya Sridhar. "Collective Models of Stance and Disagreement in Online Debates." *Classification Society Conference*, 2017.

Dhanya Sridhar, Jay Pujara. "Probabilistic Soft Logic." *UC Santa Cruz Games and Playable Media Group*, 2016.

Dhanya Sridhar, James Foulds, Marilyn Walker, Bert Huang, Lise Getoor. "Collective Stance and Disagreement Classification in Online Debate Forums." *Baylearn Machine Learning Symposium*, 2014. [Spotlight Talk]

Dhanya Sridhar, Lise Getoor. "Probabilistic Inference for Causal Structure Discovery." *Uncertainty in Artificial Intelligence (UAI) Causation Workshop*, 2016. [Open Problem Presentation]

Professional Experience

Microsoft Corporation, Bellevue, Washington

Data Scientist Intern **Summer 2016**

Improved quality of text ads by extracting structured data from Satori knowledge graph. Integrated quality improvement filters into production pipeline and A/B tested changes.

Microsoft Corporation, Bellevue, Washington

Data Scientist Intern **Summer 2015**

Proposed probabilistic model of user browsing behavior for novel domain of native ads and general content pages beyond search page. Implemented and evaluated model on real data.

University of Oldenburg, Oldenburg, Germany

Research Intern **Summer 2012**

Researched and implemented approximate clique finding polynomial time algorithm to improve performance of hybrid systems stability solver tool.

IBM Corporation, East Fishkill, NY

Programming Intern **Summer 2011**

Designed and implemented of multi-tiered web application in Java and SQL for generating progress reports on manufacturing processes.

Binghamton University Center for Academic Excellence, Binghamton, NY

Tutor **Fall 2010 - Spring 2011**

Tutored introduction to object-oriented programming, linear algebra, calculus and computer architecture courses.

Teaching Experience

University of California Santa Cruz

Teaching Assistant **Winter 2015, 2016**

CMPS 140: Introduction to Artificial Intelligence
Taught lectures on Search, Markov Decision Processes, Inference in Bayesian Networks and Decision Trees. Led midterm and final review sessions. Improved and maintained auto-grader infrastructure for students' assignments and final project.

Professional Service

International Conference on Machine Learning (ICML), Reviewer, 2018.
International Conference on Artificial Intelligence and Statistics (AISTATS), Reviewer, 2018.
International Conference on Web and Social Media (ICWSM), Reviewer, 2018.
International Workshop on Statistical Relational AI (StarAI), Program Committee, 2017.
Neural Information Processing Systems (NIPS), External Reviewer, 2017.
World Wide Web Conference (WWW), External Reviewer, 2017.
International Joint Conference on Artificial Intelligence (IJCAI), External Reviewer, 2016.
ACM Knowledge Discovery and Data Mining Conference (KDD), External Reviewer, 2016.

Activities

Data Science Santa Cruz
UC Santa Cruz **Fall 2014 - Present**
Helped organize and moderate numerous data science related events and talks at UC Santa Cruz including well-received Internship Panel, Data Science Afternoon, and multiple Data Science Socials. Facilitated and set up poster session, created abstract booklets and programs.

Graduate Cohort Workshop
Computing Research Association - Women (CRA-W) **Spring 2015**
Selected to attend annual CRA-W workshop for first to third year graduate students to participate in professional development seminars and learn about opportunities to become a mentor.

Grace Hopper Celebration
Anita Borg Institute **Fall 2014**
Received departmental support from UC Santa Cruz to attend Grace Hopper Celebration to encourage and engage with women in computing.

Relevant Graduate Coursework

Machine Learning, Advanced Analytics of Heterogenous Networks, Information Extraction, Mathematical Foundations for Handling Modern Data, Patterns Mining in Large Graphs, Causal Inference, Advanced Topics in Machine Learning

Technical Skills

Programming: Java, Python, C#, C++, SQL
Distributed Systems: Cosmos Framework
Development Platforms: Linux, Mac OSX, Windows