

SUCHETA SOUNDARAJAN

Rutgers University
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<http://www.research.rutgers.edu/~ss2078>

EDUCATION

Cornell University

Ph.D. in Computer Science

2013

Dissertation: Communities in Social Networks

Committee: John Hopcroft (chair), Dexter Kozen, David Pizarro

Minor in Psychology

Cornell University

M.S. in Computer Science

2010

The Ohio State University

B.S. in Computer/Information Science

B.S. in Mathematics

2005

RESEARCH EXPERIENCE

Rutgers University

Postdoctoral Associate (Computer Science)

Summer 2013-current

Supervisor: Tina Eliassi-Rad

Topic: Network Similarity, Longitudinal Network Analysis

Cornell University

Graduate Research Assistant (Computer Science)

2006-2013

Supervisor: John Hopcroft

Topics: Communities in Networks, Network Contagion, Link Prediction

The Ohio State University

VIGRE (Vertical Integration of Research and Education) Program (Mathematics)

Summer 2004

Supervisor: Steven Miller

Topic: The Collatz Conjecture

The Ohio State University

Research Assistant (Political Science)

Spring 2004

Supervisor: Clarissa Hayward

Topic: History of Public Education in Columbus, OH

RESEARCH INTERESTS

Detecting and characterizing communities in networks

Understanding how community structure contributes to network evolution

Identifying and characterizing classes of networks

Theoretical and axiomatic approaches to understanding networks

Interesting applications of the above in areas such as computational sustainability

JOURNAL AND CONFERENCE PUBLICATIONS

(AVAILABLE AT <http://www.research.rutgers.edu/~ss2078/papers.html>)

Sucheta Soundarajan, Tina Eliassi-Rad, and Brian Gallagher. "A Guide to Choosing a Network Similarity Method". SIAM Conference on Data Mining (SDM) 2014.

Sucheta Soundarajan and John Hopcroft. "Use of Local Group Information to Identify Communities in Networks". ACM Transactions on Knowledge Discovery from Data (TKDD) 2014 (forthcoming).

Bruno Abrahao, Sucheta Soundarajan, Robert Kleinberg, and John Hopcroft. "A Separability Framework For Analyzing Community Structure". ACM Transactions on Knowledge Discovery from Data (TKDD) 2014.

Sucheta Soundarajan and John Hopcroft. "Use of Supervised Learning to Predict Directionality of Links in a Network". 8th International Conference on Advanced Data Mining Applications (ADMA) 2012.

Sucheta Soundarajan and Carla Gomes. "Using Community Detection Algorithms for Sustainability Applications". 3rd International Conference on Computational Sustainability (CompSust) 2012.

Bruno Abrahao, Sucheta Soundarajan, John Hopcroft, and Robert Kleinberg. "On the Separability of Structural Classes of Communities." 18th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2012.

Sucheta Soundarajan and John Hopcroft. "Using Community Information to Improve the Precision of Link Prediction Methods." 21st International World Wide Web Conference (WWW) 2012.

2 algorithms from this paper have recently been added to the Networkx graph library for Python.

John Hopcroft, Sucheta Soundarajan, and Liaoruo Wang. "The Future of Computer Science". International Journal of Software and Informatics (IJSI) 2011.

Sucheta Soundarajan and John Hopcroft. "Recovering Social Networks from Contagion Information". 7th Annual Conference on Theory and Applications of Models of Computation (TAMC) 2010.

WORKSHOP PUBLICATIONS

(AVAILABLE AT <http://www.research.rutgers.edu/~ss2078/papers.html>)

Priya Govindan, Sucheta Soundarajan, and Tina Eliassi-Rad. "Finding the Most Appropriate Auxiliary Data for Social Graph De-anonymization." KDD workshop on Data Ethics, 2014.

Sucheta Soundarajan and Tina Eliassi-Rad. "Which Network Similarity Method Should You Choose: An Empirical Study". Workshop on Information Networks (WIN) at NYU, 2013.

Bruno Abrahao, Sucheta Soundarajan, John Hopcroft, Robert Kleinberg. "On the Structure of Communities in Networks". Interdisciplinary Workshop on Information and Decision in Social Networks at MIT, 2012.

IN PREPARATION

(AVAILABLE AT <http://www.research.rutgers.edu/~ss2078/submissions.html>)

Kun He, Sucheta Soundarajan, Xuezhi Cao, and John Hopcroft. "Revealing Multiple Layers of Hidden Community Structure."

Sucheta Soundarajan, Acar Tamersoy, Elias Khalil, Duen-Horng Chau, Tina Eliassi-Rad, Brian Gallagher, and Kevin Roundy. "ADAGE: A Framework for Generating Adaptable Intervals from Streaming Edges."

Sucheta Soundarajan, Tina Eliassi-Rad, Brian Gallagher, and Ali Pinar. "Strategies for Probing Incomplete Graphs."

PROFESSIONAL PRESENTATIONS

Santa Fe Institute. Seminar presentation. August 2014.

Los Alamos National Laboratory. Presentation to Center for Nonlinear Studies. August 2014.

Google, New York City. Presentation to algorithms research group. October 2013.

Rutgers University. Presentation at department seminar series. October 2013.

Air Force Office of Scientific Research Program Review. Presentation of funded research. January 2013.

The Ohio State University. Presentation to data mining group. September 2012.

TEACHING EXPERIENCE

Douglass-DIMACS Computing Corps/Girl Scouts

Organizer/Mentor

Summer 2013-current

Led a collaboration between Girl Scouts, New Brunswick Schools, and Rutgers University

Supervised group of undergraduates teaching programming to middle school girls

Assisted in development of lesson plans

Advised undergraduate students in teaching

Girls Who Code/Girls, Inc.

Instructor

Summer 2013

Taught JavaScript programming to Brooklyn inner-city middle school girls

Designed lesson plans

Tutored individually

Cornell University

Guest Lecturer, CS 2800 (Discrete Structures)

Fall 2012

Lectured as substitute instructor

Designed lesson plans

Tutored individually

Cornell University

Teaching Assistant, CS 110 (Introduction to programming using MATLAB)

Fall, Spring 2008

Led three lab/discussion sections per week

Proctored and graded exams

Designed and graded homework assignments

Tutored individually

The Ohio State University

Teaching Assistant, Math 150

Fall 2004

Led six discussion sections per week

Proctored and graded exams
 Graded homework assignments
 Tutored individually

The Ohio State University

Grader, CIS 541, 625 (Numerical Methods, Automata and Formal Languages)

Fall 2002 - Spring 2003

Graded homework assignments
 Tutored individually

SERVICE

Program Committee Member for SIGKDD (2015), SDM (2014), MobiSPC (2014)

Data Mining and Knowledge Discovery (Springer) reviewer

2014

NSF Panelist for Information and Intelligent Systems Division

2014

Douglass-DIMACS Computing Corps/Girl Scouts

Volunteer Instructor/Organizer/Mentor

Summer 2013-current

Supervised and mentored undergraduates in teaching programming
 Organized programming workshop for Girl Scouts

Girls Who Code/Girls, Inc.

Volunteer Instructor/Organizer/Mentor

Summer 2013

Taught JavaScript programming to Brooklyn middle school girls

Rutgers CS Department Colloquium

Co-Organizer

Fall 2013-Spring 2014

Hosting invited speakers for the Rutgers CS Department colloquium series

Expanding Your Horizons

Workshop Leader

2010-2012

Designed and led game theory workshops for middle school girls

Conference on Advanced Data Mining and Applications

Session chair

2012

REFERENCES

Tina Eliassi-Rad

tina@eliassi.org

848-445-8851

John Hopcroft

jeh@cs.cornell.edu

607-255-1179

Duen Horng (Polo) Chau

polo@gatech.edu

404-385-7682