

## **NITIN AGARWAL, Ph.D.**

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### **EDUCATION**

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|------|--|
| 2009 | Doctor of Philosophy in Computer Science<br>Arizona State University                           |
| 2003 | Bachelor of Technology in Information Technology<br>Indian Institute of Information Technology |

### **EMPLOYMENT**

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|----------------------------|--|
| July 2015 – <i>present</i> | Jerry L. Maulden-Entergy Chair Professor of Information Science<br>University of Arkansas at Little Rock |
| 2013 – 2015                | Associate Professor of Information Science<br>University of Arkansas at Little Rock                      |
| 2009 – 2013                | Assistant Professor (tenure-track) of Information Science<br>University of Arkansas at Little Rock       |
| 2008 – 2009                | Graduate Research Associate, School of Computing and Informatics<br>Arizona State University             |
| 2003 – 2008                | Graduate Research Associate, Hispanic Research Center<br>Arizona State University                        |

## **RESEARCH**

### **Research Areas**

- Social Computing; Knowledge discovery in Social Media; Modeling social dynamics including collective action, influence, trust, community evolution, social identity, familiar strangers; Crowdsourcing; Collective Intelligence; Human Computation; Applications of Social Computing in Cybersecurity;
- Data Mining and Machine Learning, Big “Social” Data analytics;
- Semantic Web Mining; and
- Privacy

### **Sponsored Projects**

1. Cyber-collective Movements: Novel Socio-computational Approaches in Studying the Blogosphere. The research project is funded in part by the **U.S. National Science Foundation’s** (NSF) Social-Computational Systems (SoCS) Program and Human Centered Computing (HCC) Program (Award number: IIS-1110868 and IIS-1110649). Total award amount: \$742,044. Project Period: 09/01/2011 - 08/31/2015. Collaborators: Rolf Wigand and Merlyna Lim.
2. BlogTrackers: Analyzing Social Media for Cultural Modeling. The research project is funded by the **U.S. Office of Naval Research** (ONR) under Thrust Code 341 (Award number: N000141010091). Total award amount: \$334,791. Project period: 05/01/2010 - 12/30/2013. Collaborators: Huan Liu and Merlyna Lim.
3. SBP 2012 Outreach Efforts to Increase Diversity and Participation of Minorities. The project is funded by the **U.S. National Science Foundation’s** (NSF) Human Centered Computing Program (Award number: IIS-1225981). Total award amount: \$16,640. Project Period: 03/01/2012 - 2/28/2013. Collaborators: Donald Adjero.
4. SBP 2014-2016 Conference Sponsorship Grant. The project is funded by the **U.S. Army Research Office’s (ARO)** Modeling of Complex Systems program (Award number: W911NF-14-1-0023). Total award amount: \$15,000. Project Period: 01/10/2014 - 11/09/2016.
5. Social Media Categorization Study. The project is funded by the **U.S. Air Force Research Lab (AFRL)**. Total award amount: \$150,000. Project Period: 05/01/2014 - 02/28/2015. Collaborators: Huan Liu.
6. Predictive Modeling of Cyber Flash Mobs: Understanding Emerging Sociotechnical Behaviors for Conflict Monitoring. The project is funded by the **U.S. Office of Naval Research (ONR)** under Thrust Code 341 (Award number: N000141410489). Total award amount: \$160,000. Project Period: 05/01/2014 - 09/30/2015.
7. MRI: Acquisition of Peta-Scale Data Storage System for Big Data Exploration in STEM Fields. The research project is funded in part by the **U.S. National Science Foundation’s** (NSF) Advanced Cyberinfrastructure (ACI) program (Award number: ACI-1429160). Total award amount: \$291,908. Project period: 09/01/2014 - 08/31/2017. Collaborators: Kenji Yoshigoe, Marcus Seigar, John Talburt, and Jerry Darsey.

8. SBP 2015 Outreach Efforts to Increase Diversity and Participation of Minorities. The research project is funded by the **U.S. National Science Foundation** (Award number: IIS-1523458). Total award amount: \$19,836. Project Period: 02/01/2015 - 01/31/2016. Collaborators: Donald Adjero.
9. A Socio-computational Model for 'Social Bot' Detection: Understanding tactical and strategic information maneuvers through social media to advance cyber operations. The research project is funded by the **Department of Navy's Small Business Technology Transfer (STTR)** Phase-1 grant. Total award amount: \$150,000. Project Period: 08/01/2015 - 08/31/2016. Collaborators: Intelligent Automation, Inc.

**Research Thrusts** *(A list of publications resulting from these projects is provided at the end)*

1. **Information Tactical and Strategic Maneuver through Social Media:** Working closely with the NATO officers and the U.S. Office of Naval Research (ONR) scientists, the research analyzes the sea of available data related to the Ukrainian crisis in the form of tweets, blog posts, and other social media. Analyzing these interactions reveal such things as the emergence or decline of political leadership or help de-escalate a growing crisis in a global hotspot. The research boils down reams of data into relevant information that helps policy makers in the decision-making process, and also helps counteract disinformation and propaganda campaigns circulating out there. The research led to an understanding on how Russia strategically uses CYBER operations to push messages. The research has implications in the development of technology, programs of training and education for Disarmament, Demobilization, and Reintegration (DDR), and new operational arts to support peacebuilding and discourage violence and civil unrest in conflict torn and post-conflict societies. **This research is supported by the U.S. Office of Naval Research (ONR)** under Thrust Code 341 and award number N000141410489.
2. **Sociotechnical Behavior Modeling for Cyberthreat/Cyberterrorism Assessment:** Due to the afforded anonymity and perceived less personal risk of connecting and acting online, deviant sociotechnical behaviors are becoming increasingly common to stoke civil unrest, effect civil conflict, or coordinate cyberattacks. Such deviant behaviors are categorized as the new face of transnational crime organizations (TCOs) that pose significant risks to social, political, and economic stability. The research develops capabilities that the military operations need in order to manage and adapt to the information ecology. Specifically, the research develops socio-computational models to understand the dynamics of various social processes, such as group formation, activation, decentralized decision making, and collective actions. The work identifies measurable signals to track the evolution of a deviant behavior, thereby acting as a "conflict thermometer" to assess the state of the discontent and unrest among the people and help design risk-averse strategies to enhance human security for NATO forces, U.S. and allied forces, citizens, and international workers. **This research is supported by the U.S. Office of Naval Research (ONR)** under Thrust Code 341 and award number N000141410489. The outreach and educational activities under this research effort are supported in part by the grants from the **U.S. National Science Foundation's (NSF)** Cyber Human Systems (formerly, Human Centered Computing program) under award number IIS-1225981 and the **U.S. Army Research Office's (ARO)** Modeling of Complex Systems program under award number W911NF-14-1-0023.

3. **Social Media Categorization:** Efficient data analysis techniques are developed to provide open source intelligence (OSI) from social media interactions to support situation awareness, risk assessment, mission assessment, and an over all mission effectiveness. Information is extremely critical for efficient complex military operations, military-civil affairs, and public affairs across a broad spectrum of conflict and human security. On the same hand, more information does not always imply more effectiveness. With the advance of modern Information and Communication Technologies (ICTs), especially the participatory media (social media or the Web 2.0), information analysts find themselves inundated with data, or rather the “big data”. A fundamental and systematic understanding of the social media platforms is developed to conduct studies at foundational level addressing a critical knowledge gap in studying the emerging sociotechnical behaviors. The implication of the research lies in supporting operational targeting and designing kinetic/non-kinetic strategies to tackle emerging sociotechnical behaviors. **The research is supported by the U.S. Air Force Research Lab (AFRL).**
4. **Cyber-Collective Action:** Using the global female Muslim blogosphere, the research aims to understand the complexity of cyber-collective action, develops theoretical underpinnings and experimental tools to study cyber-collective movements. Despite the exponential growth of Internet users in Muslim countries, there is a lack of empirical study of socio-political uses of the technology for expressing opinions and mobilizing individuals in these countries. The female Muslim blogosphere affords a test-bed for two reasons: First, while research shows that three of four females online are active social media users, very little research attempts to understand social, cultural and political roles of female bloggers and collectivity among female social groups. Second, the domain epitomizes an important contrast deserving attention, because female Muslim Internet users find social media as a digital recourse to exercise their freedom of speech (and many other gender-biased laws) if compared to their physical and repressively controlled spaces.

Novel algorithms have been developed for modeling cyber-collective movements by utilizing existing social theories on collective action and computational social network, filling a critical research gap in the contemporary collective action literature. This work bridges the gap between qualitative and quantitative evaluation measures. The lessons learned from this research create greater synergies between social science and computational science. Data collected from this research has implications for various interdisciplinary research endeavors, especially in human-computer interaction, organizational behavior, political communication, and computational social network analysis, among others. Members of underrepresented groups, especially female bloggers play an essential role in the research, lending insights into the idiosyncrasies of their sociotechnical behavior advancing our understanding of the female demographics, thus making a significant impact on society at large. Educational impacts include the creation of much-needed interdisciplinary courses and training undergraduate, graduate and doctoral students by involving them at all stages of the research. **This research is supported by the U.S. National Science Foundation’s (NSF) Social-Computational Systems (SoCS) program and Cyber Human Systems (formerly, Human Centered Computing program) under award numbers IIS-1110868 and IIS-1110649. SoCS is a highly competitive NSF program with less than 7% success rate.**

**This research has resulted in a ‘Best IS publication of 2012’ award.**

5. **Web-scale Information Processing and Social Computing Tools:** To process ‘big data’ from social media sources, the research has developed efficient information processing and data mining algorithms. To provide a perspective, a conservative estimate by the GovLab at the New York University reported that 2.5 billion gigabytes of data was created every day in 2012, of which 68% was the user generated content or data from social media sites, with no signs of slowing down, in fact doubling up every month. Our social computing research has developed novel algorithms that have far-reaching implication in processing massive amounts of data and extracting actionable knowledge. These algorithms have been implemented as software tools and made publicly available to researchers and practitioners at, <http://blogtrackers.fulton.asu.edu>. **These initiatives have been supported in part by the U.S. Office of Naval Research (ONR)** under Award number N000141010091 and **the U.S. National Science Foundation’s (NSF) Advanced Cyberinfrastructure (ACI) program** under award number ACI-1429160.
  
6. **Collective Context Based Privacy:** Social media sites have afforded extreme convenience in sharing information over the Internet including even sensitive financial or health-related data. Although the websites provide their data sharing policies and allow the users to configure privacy settings, these configuration procedures are often quite intricate assuming the users at par with the technological know how. Further, evolving privacy policies and the paradigmatic shift of content ownership and accessibility pose interminable challenges for the users to keep up. As a result, users may inadvertently grant access to their personally identifiable leading to privacy threats. Consequently, malicious efforts to compromise users’ data are on the rise exacerbating the problem. Existing privacy models i.e., content, user, or role-based are limited in addressing the challenges posed by the changing information sharing and ownership landscape. This warrants thinking beyond the existing privacy models and consider the context in which the information is accessed. In this research, we implement a context based privacy model (CBPM) that allows users to define their own contexts and specify fine-grained policies. Considering the needs of a common user, CBPM is extended to automate privacy recommendations in social media domain leveraging the principle of collective intelligence and trust from social network information. The framework is known as Collective-Context Based Privacy Model (C-CBPM). The C-CBPM framework allows users to *selectively* donate their privacy policies and *selectively* adopt from the donated privacy policies. The collective intelligence principle helps weed out donations from less trusted users making the model more efficient and less vulnerable to malicious donations.  
 The C-CBPM is validated on Facebook and its efficacy is demonstrated by implementing in various application domains such as, humanitarian assistance and disaster relief operations. This work is supported in part by grants from **U.S. Office of Naval Research (ONR)** under award number N000141010091 and **U.S. National Science Foundation (NSF)** under award numbers IIS-1110868 and IIS-1110649. This research has resulted in a **best paper award** at **PASSAT 2010** and a **best paper nominee** at **AMCIS 2013**.
  
7. **Democratization of Curriculum Development:** Due to the rapidly evolving Information System (IS) technologies, instructors find themselves stuck in the constant game of catching up. On the same hand students find their skills obsolete almost as soon as they graduate. As part of IS curriculum and education, we need to emphasize more on teaching the students ‘how to learn’ while keeping the curriculum up to date. Toward this direction, a collective

learning based extension to traditional learning paradigms is developed leveraging social media and implemented in three IS courses at the University of Arkansas at Little Rock. Collective learning extension creates a wiki-based curriculum development strategy that produces a nimble curriculum by facilitating student-student and student-content engagement. The developed model encourages collaborative and participatory learning among students and promotes self-learning, critical thinking, and non-linear learning skills. Collective learning extension emphasizes teamwork, coordination, and strengthening interpersonal skills, preparing the students as the next-generation workforce. Using social network analysis methodologies, promising capabilities of the model for encouraging collaboration among students are demonstrated. This work is supported by the **U.S. National Science Foundation (NSF)** under award numbers IIS-1110868 and IIS-1110649.

## **AWARDS & RECOGNITIONS**

1. Recipient of the **2015 UALR Faculty Excellence Award for Research and Creative Endeavors**. Winners are selected by a panel of national judges who review the achievements of the college-level winners. UALR News, <http://ualr.edu/news/2015/04/17/ualr-recognizes-faculty-excellence-at-27th-annual-awards-ceremony/>
2. Recipient of the **2015 Donaghey College of Engineering and Information Technology Faculty Excellence Award for Research and Creative Endeavors**.
3. **Best IS Publication of 2012 Award** given to the best among all articles published in all Information Systems journals worldwide in 2012 by the Senior Scholars Consortium of Association for Information Systems (AIS), for the article mentioned below. The article was nominated by the journal (BISE) editors and chosen from many other nominations from all information systems journals worldwide by the Senior Scholars Consortium of Association for Information Systems.

**Nitin Agarwal**, Merlyna Lim, and Rolf T. Wigand. “Raising and Rising Voices in Social Media: A Novel Methodological Approach in Studying Cyber-Collective Movements”. Business & Information Systems Engineering (BISE) Special Issue on IS and Culture, Dorothy Leidner (Ed.), WIRTSCHAFTSINFORMATIK. 2012. DOI: 10.1007/s12599-012-0210-z (English); 10.1007/s11576-012-0317-3 (German translation)

**AIS website URL:** <http://aisnet.org/general/custom.asp?page=BestPublicationsAward>

4. IEEE Computer Society **Certificate of Appreciation for outstanding service** as Tutorials Co-Chair for the ACM/IEEE Advances in Social Networks Analysis and Mining (ASONAM 2013) committee.
5. Recognized among **Top 20 Influentials in 20ies** in 2012 by Arkansas Business for being creative and talented individuals who have found early success in their profession and show future potential to step up as a leader in Arkansas business or politics.
6. **Featured in Arkansas Business’** special issue on Arkansas Research & Innovation. Cutting Edge Research Strives for Important Breakthroughs. Vol. 29, No. 28, pp. 14. July 9, 2012.
7. **Best paper award** for “CBPM: Context Based Privacy Model” in the 2nd International Symposium on Privacy and Security Applications (PSA-10) held in conjunction with IEEE

International Conference on Privacy, Security, Risk, and Trust (PASSAT 2010). August 20-22, 2010, Minneapolis, Minnesota. *Coverage in:*

- a. NSF Science360 (<http://news.science360.gov/archives/20100826>),
  - b. US News (<http://www.usnews.com/science/articles/2010/08/26/ualr-research-creates-internet-privacy-tool.html>),
  - c. UALR News (<http://ualr.edu/www/2010/08/24/ualr-researchers-develop-internet-privacy-tool/>),
  - d. Dr Dobbs Journal (<http://www.drdobbs.com/security/227100040;jsessionid=BJ0CWEFDYTLXRQE1GHP SKH4ATMY32JVN>) and
  - e. PhysOrg (<http://www.physorg.com/news201884299.html>).
8. Recognized as an **Outstanding Ph.D.** student finalist by the School of Computing and Informatics at Arizona State University, Spring 2009.
  9. Received Society for Industrial and Applied Mathematics (SIAM) Data Mining (SDM) Doctoral Forum Travel Award in 2009.
  10. Research on Blog Mining has been acknowledged by the School of Computing and Informatics, Arizona State University as ground breaking ([http://sci.asu.edu/news/publications/SCInewsletter\\_Fall08.pdf](http://sci.asu.edu/news/publications/SCInewsletter_Fall08.pdf)), pp. 10-11, Fall 2008.
  11. Received multiple conference travel grants from Graduate Professional Students Association, Arizona State University and Division of Graduate Studies, Arizona State University.

## **TEACHING**

### **Undergraduate Courses taught at UALR**

1. Internet Technologies (IFSC 1310) offered in Fall 2013.
2. Ethics in Profession (IFSC 2200) offered in Summer 2011 and Fall 2012.
3. Systems Analysis and Design (IFSC 3360) offered in Spring 2010, Fall 2010, Fall 2011, Fall 2012, Fall 2013, and Fall 2014.
4. Computer Ethics (IFSC 4210/CPSC 4210) offered in Fall 2009.

### **Graduate Courses developed and taught at UALR**

5. Social Computing (IFSC 4360/5360) offered in Fall 2009, Fall 2010, Spring 2012, Spring 2013, Spring 2014, and Spring 2015. *This course is taught both online as well as face-to-face using Blackboard Collaborate technology.*
6. Social Media Mining and Analytics (IFSC 4399/5399) offered in Spring 2011, Fall 2014, and Fall 2015. *This course is taught both online as well as face-to-face using Blackboard Collaborate technology.*

### **Graduate Courses taught at UALR**

7. Information Systems Analysis (IFSC 7310) offered in Spring 2011, Spring 2012, Spring 2013, Spring 2014, and Spring 2015. *This course is taught both online as well as face-to-face using Blackboard Collaborate technology.*

8. Database System/Information Architecture (IFSC 7320) offered in Fall 2011. *This course is taught both online as well as face-to-face using Blackboard Collaborate technology.*

### **Graduate Courses taught at ASU**

9. Social Computing and Web Analytics (CSE 494/598): Fall 2008, Arizona State University. Created in 2008. *Co-taught with Prof. Huan Liu.*

### **Invited Talks**

1. Sociotechnical Behavior Mining delivered at the **UALR EIT Leadership Council** meeting on April 29, 2015, Little Rock, Arkansas.
2. Sociotechnical Behavior Mining: Challenges, Opportunities, and Beyond delivered at the **Naval Postgraduate School** on April 23, 2015, Monterey Bay, California.
3. Sociotechnical Behavior Mining: Challenges, Opportunities, and Beyond delivered at the **Florida State University** on February 19, 2015, Tallahassee, Florida.
4. Sociotechnical Behavior Mining: Challenges, Opportunities, and Beyond. Delivered at the Artificial Intelligence (AI) cluster of **INFORMS Annual Meeting** on November 9, 2014, San Francisco, California.
5. Interconnected Online Collective Action. Delivered at the Human Computation Roadmap Summit at the **Woodrow Wilson International Center for Scholars** on June 18-20, 2014, Washington D.C.
6. Interconnected Online Collective Action. Delivered at the **Center for Advanced Studies of Language (CASL) at the University of Maryland** on June 26, 2014, College Park, Maryland.
7. Towards Collective Learning Paradigm via Integrated Social Media: Transforming Distractions into Meaningful Interactions. Delivered at the panel on “Where has all the noise gone? Self Motivation in Peer Support Through Social Media” at the Association for the Advancement of Computing in Education (AACE) 25th **EdMedia 2013 - World Conference on Educational Media and Technology**. June 24-28, 2013, Victoria BC, Canada.
8. Social Computing and Its Applications. Delivered at the Summer Workshop at **Hiram College**, June 15, 2013. Cleveland, Ohio.
9. Collective Action and Interorganizational Cooperative Networks: Novel Socio-computational Methodologies, Challenges, and Opportunities. Delivered at the **Qatar Foundation’s Qatar Computing Research Institute (QCRI)**, March 17, 2013. Doha, Qatar.
10. Female Muslims and Collective Action via Social Media. Delivered at the **Raindrop Turkish House** as a part of the monthly invited lecture series on “Culture and Communication”, October 18, 2012. Little Rock, Arkansas.
11. Future Forward Research: Social Computing & Behavioral Modeling. Delivered at the Engineering Systems/Integrated Computing (ENSS/IGCP) joint colloquium series, **UALR** August 31, 2012. Little Rock, Arkansas.



12. Future Forward Research: Social Computational Systems. Delivered at the **Center of Innovation and Commercialization**, 3rd Advisory Council Meeting, July 17, 2012. UALR, Little Rock, Arkansas.
13. Understanding Social Media and User Behavior. Delivered at **Acxiom TResNet Conference**, November 8, 2011. Little Rock, Arkansas..
14. Understanding Social Media: Tools, Applications, and Processes. Presented at International Conference on **Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP)**, March 28, 2011, College Park, Maryland.  
(<http://www.umiacs.umd.edu/conferences/sbp2011/tutorials.html>)
15. Presented a tutorial on Community Detection and Behavior Study for Social Computing at **IEEE International Conference on Social Computing (SocialCom 09)** with Huan Liu and Lei Tang, August 29-31, 2009. Vancouver, Canada.
16. Presented a tutorial on Blogosphere: Research Issues, Applications, and Tools at **ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD 2008)** with Huan Liu, August 24-27, 2008. Las Vegas, Nevada. Video available at: [http://videlectures.net/kdd08\\_liu\\_briat/](http://videlectures.net/kdd08_liu_briat/).
17. Information Quality in Social Media: Challenges and Opportunities. **International Association for Information and Data Quality (IAIDQ)** - Student Chapter, Little Rock, Arkansas. September 17, 2010.
18. Behavior Patterns in Social Media and Applications. **Yahoo Research**, India. December 21, 2009.
19. Social Computing: Studying Behavior on Social Media. CSAM-EIT Colloquium Series, **University of Arkansas at Little Rock**. August 28, 2009.
20. Preparing for Academic Careers. Ph.D. Seminar, Arizona State University. May 15, 2009.
21. Social Computing in Blogosphere and Research Challenges. **University of Arkansas at Little Rock**. March 13, 2009.
22. Social Computing in Blogosphere and Research Challenges. **Wright State University**. February 12, 2009.
23. Social Computing and its Challenges in Blogosphere. Doctoral Seminar, **Arizona State University**. January 30, 2009.

### **Videos of Talks**

1. A Social Identity Approach to Identify Familiar Strangers in a Social Network. Research track paper presentation at **ICWSM 2009**. Video available at: [http://videlectures.net/icwsm09\\_agarwal\\_siaifs/](http://videlectures.net/icwsm09_agarwal_siaifs/).
2. A tutorial on Blogosphere: Research Issues, Applications, and Tools. Presented at **ACM International Conference on Knowledge Discovery and Data Mining (KDD) 2008**. Video available at: [http://videlectures.net/kdd08\\_liu\\_briat/](http://videlectures.net/kdd08_liu_briat/).

3. Identifying Influential Bloggers in a Community. Research track paper presentation at **ACM International Conference on Web Search and Data Mining (WSDM) 2008**. Video available at: [http://videolectures.net/wsdm08\\_agarwal\\_iib/](http://videolectures.net/wsdm08_agarwal_iib/).

## **SERVICE**

### **Service to Research Community**

1. Served on review panels for **U.S. National Science Foundation (NSF)** Information Integration and Informatics (III), Smart and Connected Health (SCH), and Social Computational Systems (SoCS) programs.
2. Served as external reviewer for **U.S. National Institutes of Health (NIGMS/NIH)** in 2014.
3. Served as external reviewer for **U.S. Army Research Office (ARO)** in 2013.
4. Served as external reviewer for **Natural Sciences and Engineering Research Council (NSERC), Canada** in 2013, 2014.
5. Served as external reviewer for **Research Grants Council (RGC), Hong Kong** in 2010, 2011, 2012, 2013, 2014, and 2015.
6. Served on multiple review panels for **King Abdulaziz City for Science and Technology (KACST), National Science Agency of Saudi Arabia** on ‘Big Data’ and ‘IT Security and Privacy - social network forensics and biometrics’ in 2014.
7. Served as organizing chair for
  - a. PhD Forum/Doctoral Consortium at ASONAM 2015. August 25-28, 2015, Paris.
  - b. AAAI Spring 2015 Symposium on Socio-Technical Behavior Mining. March 23-25, 2015, Palo Alto, California, USA.
  - c. Social Awareness Computing using Social Media: Challenges and Opportunities in Understanding Socio-Technical Behavior for Crisis and Disaster Management, co-located with the 6th IEEE International Conference on Awareness Science and Technology (iCAST 2014). October 29-31, 2014, France.
  - d. SNBD14: International Symposium on Social Networks and Big Data (SNBD), co-located with the 2014 IEEE International Conference on Communications in China (ICCC 2014). October 13-15, 2014, Shanghai, China.
  - e. WBA13: International Workshop on Web Behavior Analytics (WBA13), co-located with the 2013 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2013). August 25-28, 2013, Niagara Falls, Canada.
  - f. SBP 13 Data Challenge co-located with International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction (SBP 2013), April 2-5, 2013, Washington D.C., USA. Co-chair: Wen Dong.
  - g. SBP 12 Challenge co-located with International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction (SBP 2012), April 3-5, 2012, Maryland, USA.
8. Served as program chair for

- a. International conference on Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP) 2014, 2015.
- b. International conference on Social Computing and Applications (SCA) 2011, 2012.
9. Served as senior program committee member for the 23rd International Joint Conference on Artificial Intelligence (IJCAI) 2013.
10. Served as technical program committee member for
  - a. FOSINT 2013: International Symposium on Foundations of Open Source Intelligence and Security Informatics, Niagara Falls, Canada, August 26-27, 2013.
  - b. SBP 2011, SBP 2012, SBP 2013: International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction.
  - c. SocialComp 2011: International Conference on Social Computing, Behavior Modeling and Simulation, 2011, Cebu, Philippines.
  - d. ASONAM 2011: The 2011 International Conference on Advances in Social Networks Analysis and Mining, July 25-27, 2011, Taiwan.
  - e. SOTICS 2011: First International Conference on Social Eco-Informatics. July 17 - 22, 2011, Bournemouth, UK.
  - f. ISDA 2011: 11th International Conference on Intelligent Systems Design and Applications. November 22-24, 2011, Spain.
  - g. WWW 2013 Demo Track: 22nd International World Wide Web Conference. May 13-17, 2013, Rio De Janeiro, Brazil.
11. Served as program committee (PC) member for CIKM, MSM, SBP, MEDES, ASONAM, ICIQ, CPSCom, SMUC, MEDES, SocialObjects, ASONAM.
12. Served as tutorial co-chair for ASONAM 2013.
13. Served as proceedings chair for Social Computing, Behavioral Modeling, and Prediction (SBP), SIAM Data Mining (SDM).
14. Served as publicity chair for SOTICS, SBP and SIAM Data Mining (SDM).
15. Reviewed Journal and Conference papers for AAAI, VLDB, PAKDD, EC-WEB, WAIM, International Journal of Information Science, CIKM, KDD, IJCSA, APWeb, SDM, JCISE, WWW, ICDM, ICDE, ICWE, ICWSM.

### **Editor**

1. Guest Editor for **IEEE Communications Magazine** special issue on Social Networks Meet Next Generation Mobile Multimedia Internet to appear in 2015 with Seshadri Mohan, Ashutosh Dutta, Sudhir Dixit, and Ramjee Prasad.
2. Guest Editor for **IEEE Transactions on Computational Social Systems (TCSS)** special issue on Social Computing, Behavioral-Cultural Modeling, and Prediction to appear in 2015 with Kevin Xu, Nathaniel Osgood, and Dongwon Lee.
3. Guest Editor for **The Journal of Systems and Software** special issue on Social Cyber Systems to appear in 2014 with Aoying Zhou and Guandong Xu (co-editors). Published by Elsevier.

4. Guest Editor for Oxford's **The Computer Journal**. Editing a special issue on Social Computing and its Applications to appear in 2014 with Aoying Zhou and Guandong Xu (co-editors). Published by the Oxford Journals.
5. Guest Editor for Springer's **Lecture Notes in Social Networks** series on Online Collective Action: Dynamics of the Crowd in Social Media. Co-editors: Rolf T. Wigand and Merlyna Lim. 2014.
6. Guest Editor for **IEEE Communications Magazine**. Editing a special issue on Social Networks meet Mobile Network. Co-editors: Seshadri Mohan and Ashutosh Dutta. June 2012.
7. Guest Editor for Elsevier **Journal of Computational Science** special issue on Social Computational Systems. Co-editor: Xiaowei Xu. August 2011.
8. Guest Editor for **IEEE Internet Computing** special issue on Social Computing in Blogosphere. Co-editors: Huan Liu, Philip S. Yu, and Suel Thorsten. Mar-Apr 2010.
9. Editorial board member for the Springer Journal on **Social Network Analysis and Mining (SNAM)**.
10. Editorial board member for the Springer's **Human Computation** journal.
11. Associate editor for the **International Journal of Sensor Networks and Data Communications (IJSNDC)**, IGI Global publishers.
12. Associate editor for the **International Journal of Interactive Communication Systems and Technologies (IJICST)**, IGI Global publishers.

### University Service

1. **Faculty advisor for UALR Quiz Bowl**, an academic competition team for the students of UALR.
2. **University eLAG/Distance Education Committee** – represent the EIT College on the Electronic Learning Advisory Group overseeing all web-based courses in the University.
3. **University Diversity Council** – represent the EIT College on the campus-wide diversity council responsible for examining the campus climate with a broad definition of diversity including, but not limited to, race/ethnicity, gender, ability, sexual orientation, etc. The council presents recommendations to the Chancellor strengthening the goal of continuous improvement of campus climate and diversity.
4. **Chairing College Graduate Curriculum Committee** – review program and curriculum changes for different college departments (viz., Information Science, Computer Science, Systems Engineering, and Construction Management) and various programs within (viz., Information Quality, Bioinformatics).
5. **College Faculty Marshal** during Spring 2014 Commencement Ceremony
6. **Department Promotion and Tenure Committee** – Member
7. **Arkansas Web Developers Group** – Member

## **Dissertation Chair**

### *Currently Serving*

1. Serpil Yuçe (PhD candidate, joined Spring 2012)
2. Amit Saha (PhD candidate, joined Spring 2013)
3. Therese Williams (PhD, joined Spring 2014)
4. Samer Al-Khateeb (PhD, joined Spring 2014)
5. Mohammed Nihal Hussein (MS, joined Summer 2014)

### *Graduated Students*

6. Masood Mir (PhD, Spring 2012), Assistant professor at Rowan University, New Jersey.
7. Ismail Guvenç Yuçe (PhD, Fall 2012), Entrepreneur, Bosphorus Online LLC, Little Rock, AR.
8. Fatih Şen (PhD, Spring 2014), Bioinformatics Research Specialist, Children's Foundation Research Institute, Le Bonheur Children's Hospital
9. Venkata MarthaSwamy (PhD, Spring 2013), Senior Data Scientist, @Walmart Labs
10. Faysal Ahmed (PhD, Spring 2015), Windstream, Inc.
11. Samer Al-Khateeb (MS, Spring 2015, *continuing to PhD*)
12. Nermin Hanna (MS, Spring 2015)

## **Dissertation Committee Member**

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## **Undergraduate Student Mentor**

1. Shelby Sorels (Summer 2015, *EIT Summer Undergraduate Program of Entrepreneurship and Research (SUPER) program*), Harding University.
2. Holly Ratliff (Summer 2015, *National Science Foundation's Research Experience for Undergraduate (REU) program*), Missouri Southern State University, Joplin, MO.
3. Sebastian Florez (Summer 2014, *National Science Foundation's Research Experience for Undergraduate (REU) program*), Stetson University.
4. Victoria Richardson (Summer 2014, *National Science Foundation's Research Experience for Undergraduate (REU) program*), Auburn University.
5. Praneeth Kaza (Fall 2013, UALR Undergraduate Research Experience).
6. Winfried Herring (Fall 2011, Exchange Student Program, Fernuniversität Hagen, Germany).

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Lakkaraju (Sandia National Lab), Merlyna Lim (Canada Research Chair, Carleton University), Huan Liu (ASU), Sudheendra Murthy (eBay), O. Isaac Osesina (Aware Inc.), Arnold Picot (Ludwig Maximilians University Munich), Srinu Ramaswamy (ABB), John Salerno (Air Force Research Lab), Arunabha Sen (ASU), Thomas A.J. Schweiger (Acxiom Corp.), Shankar B. Subramanya (@Walmart Labs), Lei Tang (@Walmart Labs), Martha VenkatSwamy (@Walmart Labs), Rolf T. Wigand (UALR), Mark Woodward (Center for Religious Studies, ASU), Petros Xanthopoulos (University of Central Florida), Xiaowei Xu (UALR), Shanchieh Jay Yang (Rochester Institute of Technology), Philip S. Yu (University of Illinois at Chicago), Jianping Zhang (Deloitte).

## **PUBLICATIONS**

### **Books**

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5. **Nitin Agarwal** and Huan Liu. Modeling and Data Mining in Blogosphere. Synthesis Lectures on Data Mining and Knowledge Discovery, Vol. 1. Morgan & Claypool Publishers. Robert Grossman (Editor). 2009. ISBN: 9781598299083 (paperback) ISBN: 9781598299090 (ebook). Online: <http://www.morganclaypool.com/doi/abs/10.2200/S00213ED1V01Y200907DMK001>, <http://www.amazon.com/Modeling-Blogosphere-Synthesis-Knowledge-Discovery/dp/1598299085/>.

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3. **Nitin Agarwal**, Merlyna Lim, and Rolf T. Wigand. "Online Collective Action and the Role of Social Media in Mobilizing Opinions: A Case Study on Women's Right-to-Drive Campaigns in Saudi Arabia", Web 2.0 Technologies and Democratic Governance, Public Administration and Information Technology, Volume 1, Part 2, Pages 99-123. Christopher G. Reddick and Stephen K. Aikins (Eds.). Springer, 2012. DOI: 10.1007/978-1-4614-1448-3\_7.
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18. **Nitin Agarwal**, Huan Liu, and Jianping Zhang. Blocking Objectionable Web Contents by Leveraging Multiple Information Sources. *ACM SIGKDD Explorations*, Vol. 8, Issue 1, pp. 17-26. 2006.
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2. Amit Saha and **Nitin Agarwal**. Social Support, Stress & Subject of Discussions: Comparative Analysis of Autism Blogging Community via Microblogging Platform. In the Proceedings of the International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP15), March 31-April 3, 2015, Washington D.C.
3. Samer Al-khateeb and **Nitin Agarwal**. Analyzing Deviant Cyber Flash Mobs (DCFM)s of ISIL on Twitter. In the Proceedings of the International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP15), March 31-April 3, 2015, Washington D.C.

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5. Alireza Hajibagheri, Kiran Lakkaraju, Gita Sukthankar, Rolf Wigand, and **Nitin Agarwal**. Conflict and Communication in Massively-Multiplayer Online Games. In the Proceedings of the International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP15), March 31-April 3, 2015, Washington D.C.
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7. Amit Saha and **Nitin Agarwal**. Insight into Social Support of Autism Community via Microblogging Platform. In the Proceedings of the AAAI Spring 2015 Symposium on Sociotechnical Behavior Mining: From Data to Decisions, March 24-26, 2015, Stanford University, California.
8. Fatih Sen, Naga Nagisetty, Teeradache Viangteeravat, and **Nitin Agarwal**. An Online Platform for Focal Structures Analysis: Analyzing smaller and more pertinent groups using a web tool. In the Proceedings of the AAAI Spring 2015 Symposium on Sociotechnical Behavior Mining: From Data to Decisions, March 24-26, 2015, Stanford University, California.
9. Therese Williams, **Nitin Agarwal**, and Rolf T. Wigand. Protecting Private Information: Current Attitudes Concerning Privacy Policies. In Proceedings of the Sixth ASE International Conference on Privacy, Security, Risk and Trust (PASSAT 2014), December 13-16, 2014, Cambridge, Massachusetts.
10. Samer Al-khateeb and **Nitin Agarwal**. Developing A Conceptual Framework for Modeling "Deviant Cyber Flash Mob": A Socio-Computational Approach Leveraging Hypergraph Constructs. In Proceedings of the Sixth International Conference on Digital Forensics and Cyber Crime (ICDF2C 2014), September 18-20, 2014, New Haven, Connecticut.
11. Samer Al-khateeb and **Nitin Agarwal**. Modeling Flash Mobs in Cybernetic Space: Evaluating Threats from Emerging Socio-Technical Behaviors to Human Security. In Proceedings of the IEEE Joint Intelligence and Security Informatics Conference (JISIC 2014), September 24-26, 2014, Hague, Netherlands.
12. Fatih Sen, Rolf T. Wigand, **Nitin Agarwal**, Mutlu Mete, and Rafal Kasprzyk. Focal Structure Analysis in Large Biological Networks. In Proceedings of the 6th International Conference on Bioinformatics and Biomedical Technology (ICBBT 2014), May 14-16, 2014, Gdansk, Poland.
13. Serpil Yuçe, **Nitin Agarwal**, Rolf Wigand, Merlyna Lim and Rebecca Robinson. Studying the Evolution of Online Collective Action: Saudi Arabian Women's 'Oct26Driving' Campaign on Twitter. In Proceedings of the 2014 International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP14), April 2-4, 2014, Washington DC. Springer.

*Also presented at* the 34th International Sunbelt Social Network Conference (Sunbelt XXXIV) organized by the International Network for Social Network Analysis (INSNA), February 18-23, 2014, St. Pete Beach, Florida.

14. Venkata Swamy Martha, **Nitin Agarwal** and Srini Ramaswamy. Enhancing Privacy in Online Social Communities: Can Trust Help Mitigate Privacy Risks? In Proceedings of the 10th International Conference on Distributed Computing and Internet Technologies (ICDCIT-2014). Bhubaneswar, India, February 6-9, 2014.
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17. **Nitin Agarwal** and Faysal Ahmed. Collective Learning Paradigm for Rapidly Evolving Curriculum: Facilitating Student and Content Engagement via Social Media. In Proceedings of the 19th Americas Conference on Information Systems (AMCIS 2013), August 15-17, 2013, Chicago, Illinois, USA.
18. Serpil T. Yuçe, **Nitin Agarwal**, Rolf T. Wigand, and Merlyna Lim. Cooperative Networks in Interorganizational Settings: Analyzing Cyber-Collective Action. In Proceedings of the 17th Pacific Asia Conference on Information Systems (PACIS), June 18-22, 2013, Jeju Island, Korea. **Best paper nominee.**  
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19. Fatih Şen, Rolf T. Wigand, **Nitin Agarwal**, and Rafal Kasprzyk. Modeling Diffusion and Network Robustness through Focal Structures in Social Networks. The 33rd International Sunbelt Social Network Conference (Sunbelt XXXIII) organized by the International Network for Social Network Analysis (INSNA), May 21-26, 2013, Hamburg, Germany.
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21. Debanjan Mahata and **Nitin Agarwal**. What does Everybody Know? Identifying Event-Specific Sources from Social Media. In Proceedings of the fourth International Conference on Computational Aspects of Social Networks (CASoN 2012). November 21-23, 2012. Sao Carlos, Brazil.
22. Fatih Şen, Rolf T. Wigand, **Nitin Agarwal**, Debanjan Mahata, and Halil Bisgin. Identifying Focal Patterns in Social Networks. In Proceedings of the fourth International Conference on Computational Aspects of Social Networks (CASoN 2012). November 21-23, 2012. Sao Carlos, Brazil.

23. Rolf Wigand, **Nitin Agarwal**, Isaac Osesina, Winfried Hering, Audrey Korsgaard, Arnold Picot, and Marcus Drescher. Social Network Indices as Performance Predictors in a Virtual Organization. In Proceedings of the fourth International Conference on Computational Aspects of Social Networks (CASoN 2012). November 21-23, 2012. Sao Carlos, Brazil.
24. Venkata Swamy Martha, Stephen Wallace, Halil Bisgin, Xiaowei Xu, **Nitin Agarwal**, and Hemant Joshi. NMiner: A System for Finding Related Entities by Mining a Bimodal Network. In the Proceedings of the Eighth Asia Information Retrieval Societies Conference (AIRS 2012). December 17-19, 2012. Tianjin, China.
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26. Debanjan Mahata and **Nitin Agarwal**. Analyzing Event-specific Socio-Technical Behaviors Through the Lens of Social Media. The International Sunbelt Social Network Conference (Sunbelt XXXII) organized by the International Network for Social Network Analysis (INSNA), March 12-18, 2012, Redondo Beach, California.
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29. Seshadri Mohan and **Nitin Agarwal**. A Convergent Framework for QoS-Driven Social Media Content Delivery over Mobile Networks. In the second IEEE International Conference on Wireless Communications, Vehicular Technology, Information Theory and Aerospace & Electronic Systems Technology (WiRELESS ViTAE 2011). Feb 28-Mar 3, 2011, Chennai, India.
30. Martha Venkataswamy, Srini Ramaswamy, and **Nitin Agarwal**. CBPM: Context Based Privacy Model. In the 2nd International Symposium on Privacy and Security Applications (PSA-10) held in conjunction with IEEE International Conference on Privacy, Security, Risk, and Trust (PASSAT 2010). August 20-22, 2010, Minneapolis, Minnesota. **Best Paper Award**. News Coverage: [NSF Science360](#), [US News](#), [UALR News](#), [PhysOrg](#), [Dr Dobbs Journal](#)
31. **Nitin Agarwal** and Yusuf Yiliyasi. Information Quality Challenges in Social Media. In the International Conference on Information Quality (ICIQ 2010). November 12-14, 2010, Little Rock, Arkansas.
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### **Ph.D. Dissertation**

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