

Meena Nagarajan

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SUMMARY

- Ph.D Candidate, **KNO.E.SIS Center**, Dept. of Computer Science and Engineering, Wright State University, Dayton, OH, USA, 2005 – Present (Previously at University of Georgia, Athens, GA, USA. I moved to Ohio when my advisor Amit P. Sheth took up the LexisNexis Ohio Eminent Scholar position at Wright State in Jan 2007.)
- Research Intern with Social Streams, Microsoft Research, 2009
- Research Internship with Prof. Marti Hearst, Information School, UC Berkeley, 2008
- Research Intern with the Semantic Supercomputing group, IBM-Almaden, 2007
- Research Intern with the Systems and Storage team, Hewlett Packard Labs, 2006
- MS, Dept of Computer Science, University of Georgia, 2003 - 2005
- Master of Management Studies (1998 - 2002) (First Class), Birla Institute of Technology and Science, Pilani India

SUMMARY OF SCHOLARLY INTERESTS AND ACCOMPLISHMENTS

My research interests lie at the intersection of automatic *social content analysis* and *computational social science*. My interest is in finding innovative and robust computational ways of coding and analyzing behavioral data on social media and answering questions about the underlying social processes. In my most recent work I have focused on *making sense of social (textual) data*, drawing from the fields of statistical Natural Language Processing (NLP), Machine Learning, Social Web and the Semantic Web to tackle a diverse set of information extraction problems and to power Social Intelligence applications. My research has focused on answering three broad questions in the analysis of Social Media content:

- **Characterizing *what* people are talking about** What are the named entities and topics that people are making references to? How are cultures interpreting any situation in local contexts and supporting them in their variable observations on a social medium?
- **Characterizing *how* they express themselves** What do word usages tell us about an active population or about individual allegiances or non-conformity to group practices?
- **Characterizing *why* they scribe** What are the diverse intentions that produce the diverse content on social media? Can we understand why we share by looking at what we predominantly do with the medium? What emotions are people conveying about a person, event or incident?

Several results of my work have been absorbed into two deployed social intelligence Web applications. First, the BBC SoundIndex (www.almaden.ibm.com/cs/projects/iis/sound/), that measures the pulse of a music populace by tapping into content from online music communities for the end goals of popularity mining. The second web application, Twitris (<http://twitris.knoesis.org>) aggregates user perceptions behind real-time events using data from Twitter. My future interests are in grounding social data analysis in Communication theory, understanding a social process in the context of people, content and network connections -- "*who (people) said what (content) to whom (network structures) in what channel with what effect*"; and in interpreting results of the computational analyses using theories of information/social science.

HONORS AND AWARDS

Invited Keynote talk at the Social Data on the Web Workshop, collocated with the International Semantic Web Conference (ISWC) 2009. Title: *User-generated Content on Social Media: Challenges, Opportunities*

Invited Panel Presentation at the Search in Social Media Workshop, collocated with the Third ACM International Conference on Web Search and Data Mining, 2010

IBM UIMA Innovation Award 2007: Primary contributor (proposal based on my work) to the winning proposal "UIMA-based Infrastructure for Summarizing Casual, Unstructured Text"

Microsoft's Beyond Search - Semantic Computing and Internet Economics Award 2008: Primary contributor (proposal based on my work) to the winning proposal "Chatter, Intent and Good Karma for Targeted Advertising in Social Networks"

International Semantic Web Conference, 2009, Student Fellowship Award

PUBLICATIONS

W3C Submissions

- R. Akkiraju, J. Farrell, J. Miller, M. Nagarajan, M. Schmidt, A. Sheth, K. Verma, Web Service Semantics - **WSDL-S - W3C Member Submission (Outcome of my Master's thesis)**

Journal Publications

- Daniel Gruhl, Meenakshi Nagarajan, Jan Pieper, Christine Robson, Amit Sheth, *Multimodal Social Intelligence in a Realtime Dashboard System*, VLDB Journal, Special Issue on "Data Management and Mining on Social Networks and Social Media", 2010
- Boanerges Aleman-Meza, Meenakshi Nagarajan, Li Ding, Amit P. Sheth, Ismailcem Budak Arpinar, Anupam Joshi, Timothy W. Finin, *Scalable Semantic Analytics on Social Networks for Addressing the Problem of Conflict of Interest Detection*, To appear in ACM Transactions on the Web, 2 (1), Feb 2008
- Meenakshi Nagarajan, Kunal Verma, Amit P. Sheth, John A. Miller, *Ontology Driven Data Mediation in Web Services*, Journal of Web Services Research Vol. 4(4), 2007

Conference Publications

- Meenakshi Nagarajan Hemant Purohit, Amit Sheth, *A Qualitative Examination of Topical Tweet and Retweet Practices*, 4th Int'l AAAI Conference on Weblogs and Social Media, ICWSM 2010, to appear
- Meenakshi Nagarajan, Amir Padovitz, A Measure of Extraction Complexity: a Novel Prior for Improving Recognition of Cultural Entities, Manuscript in preparation.
- Daniel Gruhl, Meenakshi Nagarajan, Jan Pieper, Christine Robson, Amit Sheth, *Context and Domain Knowledge Enhanced Entity Spotting in Informal Text*, The 8th International Semantic Web Conference, 2009: 260-276
- Meenakshi Nagarajan, Kamal Baid, Amit P. Sheth, and Shaojun Wang, *Monetizing User Activity on Social Networks - Challenges and Experiences*, 2009 IEEE/WIC/ACM International Conference on Web Intelligence, 2009: 92-99
- Meenakshi Nagarajan, Karthik Gomadam, Amit Sheth, Ajith Ranabahu, Raghava Mutharaju and Ashutosh Jadhav, *Spatio-Temporal-Thematic Analysis of Citizen-Sensor Data - Challenges and Experiences*, Tenth International Conference on Web Information Systems Engineering, 2009: 539-553
- Meenakshi Nagarajan, Marti A. Hearst. *An Examination of Language Use in Online Dating Personals*, 3rd Int'l AAAI Conference on Weblogs and Social Media, ICWSM 2009: 266-269
- Alfredo Alba, Varun Bhagwan, Julia Grace, Daniel Gruhl, Kevin Haas, Meenakshi Nagarajan, Jan Pieper, Christine Robson, Nachiketa Sahoo. *Applications of Voting Theory to Information Mashups*, Second IEEE International Conference on Semantic Computing, ICSC 2008, 10-17
- Karthik Gomadam, Ajith Ranabahu, Meenakshi Nagarajan, Amit P. Sheth, Kunal Verma. *A Faceted Classification Based Approach to Search and Rank Web APIs*, IEEE International Conference on Web Services, ICWS 2008, 177-184
- Meenakshi Nagarajan, Amit P. Sheth, Marcos Aguilera, Kimberly Keeton, Arif Merchant, and Mustafa Uysal, *Altering Document Term Vectors for Classification - Ontologies as Expectations of Co-occurrence*, Conference poster at the 16th World Wide Web Conference, 2007: 1225-1226

- Boanerges Aleman-Meza, Meenakshi Nagarajan, Cartic Ramakrishnan, Li Ding, Amit P. Sheth, Ismailcem Budak Arpinar, Anupam Joshi, Timothy W. Finin, *Semantic Analytics on Social Networks: Experiences in Addressing the Problem of Conflict of Interest Detection*, 15th International World Wide Web Conference, 2006: 407-416 (**Best Paper Nominee**)
- Meenakshi Nagarajan, Kunal Verma, Amit P. Sheth, John A. Miller, Jon Lathem, *Semantic Interoperability of Web Services - Challenges and Experiences*, ICWS 2006: 373-382

Workshop Publications

- W.S. York, A. Sheth, K. Kochut, J. Miller, C. Thomas, K. Gomadam, M. Nagarajan, X. Yi Semantic Integration of Glycomics Data and Information, Human Disease Glycomics/Proteome Initiative 1st Workshop 2004: Functional Glycomics in Disease, Osaka, Japan.
- Amit Sheth, William York, Christopher Thomas, Meenakshi Nagarajan, John A. Miller, Krys Kochut, Satya Saho, Xiaochuan Yi, Semantic Web technology in support of Bioinformatics for Glycan Expression, W3C Workshop on Semantic Web for Life Sciences, 27-28 October 2004, Cambridge, Massachusetts USA.
- R. Akkiraju, J. Farrell, J. Miller, M. Nagarajan, M. Schmidt, A. Sheth, K. Verma, Web Service Semantics - WSDL-S (Position Paper for the W3C Workshop on Frameworks for Semantics in Web Services). Also at **W3C**

Book Chapters, Articles, Tutorials

- Amit Sheth, Meenakshi Nagarajan. *Semantics-Empowered Social Computing* IEEE Internet Computing 13(1): 76-80, 2009
- Meenakshi Nagarajan, Cartic Ramakrishnan, Amit Sheth, *Text Analytics for Semantic Computing - the good, the bad and the ugly*, Second IEEE International Conference on Semantic Computing Santa Clara, CA, USA, 2008.
- Meenakshi Nagarajan, Semantic Annotation in Web Services, *Semantic Web Processes and Their Applications (Semantic Web and Beyond: Computing for Human Experience)*. Jorge Cardoso, Amit P. Sheth, Editors. Springer, 2006 (in print)

PROFESSIONAL ACTIVITIES

Program Committee Member

Ontology Matching Workshop, ISWC 2007, CIKM 2007, ICSC 2008, WSDM 2009, AST 2009, SDoW 2009, ICWSM 2010, ESWC 2010

External Reviewer

ICDE 2005, ICWS 2005, TODS 2005, WISE 2005, ODBASE 2005, ESWC 2006, IJSWIS 2006, ODBASE 2006, OM 2006, CIA 2007, IICAI 2007, OM 2007, CIKM 2007, WWW 2007, AAAI 2007, WSDM 2009, AST 2009, SDoW 2009, ESWC 2010, ICWSM 2010, AAAI2010

LIST OF REFERENCES

1. Amit P. Sheth (Advisor)
 Director, Kno.e.sis Center
 Department of Computer Science & Engineering
 Wright State University
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2. Marti A. Hearst
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3. John M. Flach
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4. Dr. Daniel Gruhl
Research Staff Member
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5. Dr. Amir Padovitz
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6. Kevin Haas
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