

## Devipsita Bhattacharya

Phone: 520.205.0239

Email: [dbhattac@email.arizona.edu](mailto:dbhattac@email.arizona.edu)

*Post-Doctoral Research Associate*

INSITE: Center for Business Intelligence and Analytics

1130 East Helen Street, Eller College of Management, McClelland Hall 430,

Tucson, Arizona, 85721, United States

Website: <https://www.insiteua.org/people/devipsita-bhattacharya>

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### **EDUCATION**

#### **UNIVERSITY OF ARIZONA, Eller College of Management, Tucson, AZ**

Doctor of Philosophy, Management - Management Information Systems Emphasis (Minor: Information Resources and Library Sciences), August 2010 – August 2016

#### ***Network Theoretic Approaches for Understanding and Analyzing Social Media Based News Article Propagation***

*Dissertation Committee* - Sudha Ram (Chair), Paulo Goes (Member), Daniel Zeng (Member), Hong Cui (Member)

*My dissertation focuses on understanding propagation of news articles on social media. I develop a set of network theory based methodologies to extract and analyze various implicit propagation networks formed as a result of news article sharing process on Twitter. These methodologies explore many characteristics of users' article sharing behavior, influence of the news provider's social media accounts, role of followers, and overlaps between propagation networks of news providers. Furthermore, it also includes useful inferences derived about the news article propagation phenomenon by using a large dataset collected from Twitter over a nine-month period. It expands on the inferences from my published works and the challenges identified in news article consumption and distribution on the Internet.*

#### **UNIVERSITY OF ARIZONA, Eller College of Management, Tucson, AZ**

Master of Science, Management Information Systems, August 2009 – December 2010

#### **UNIVERSITY OF MUMBAI, Veermata Jijabai Technological Institute (VJTI), Mumbai, MH, India**

Bachelor of Engineering, Computer Technology, May 2006

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## RESEARCH INTERESTS

- Network and Data Science
  - Diffusion Analysis
  - Very Large Network Analysis
  - Performance Analysis of Distributed Computing Systems
  - Web Analytics
  - Business Intelligence
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## PUBLICATIONS

### *Refereed Journal Papers*

- Bhattacharya, D., and Ram, S. 2015. "RT @News: An Analysis of News Agency Ego Networks in a Microblogging Environment," *ACM Transactions on Management Information Systems (TMIS)* (6:3), pp. 1-25.

### *Refereed Journal Papers – Under Review*

- Bhattacharya, D., Currim, F. and Ram, S. 2016. Evaluating Distributed Digital Infrastructures: An Empirical Study Comparing On-Demand Cloud with Local Systems. *Submitted for review to Digital Infrastructures and Platforms Special Issue of Information Systems Research.*

### *Refereed Conference Papers*

- Bhattacharya, D., and Ram, S. 2016. "Understanding the Competitive Landscape of News Providers on Social Media," *3rd Workshop on Social News on the Web, In WWW'16 Companion*, Montreal, Canada.
- Bhattacharya, D. 2015. "Modeling Social Media Based News Article Propagation: A Network and Probabilistic Theoretic Approach," *Proceedings of the 25th Workshop on Information Technology and Systems*, Dallas, Texas.
- Bhattacharya, D., and Ram, S. 2013. "Community Analysis of News Article Sharing on Twitter," *Proceedings of the 23rd Workshop on Information Technology and Systems*, Milan, Italy.
- Bhattacharya, D., and Ram, S. 2012a. "News Article Propagation on Twitter Based on Network Measures - an Exploratory Analysis," *Proceedings of the 22nd Workshop on Information Technology and Systems*, Orlando, Florida.
- Bhattacharya, D., and Ram, S. 2012b. "Sharing News Articles Using 140 Characters: A Diffusion Analysis on Twitter," *Advances in Social Networks Analysis and Mining (ASONAM), 2012 IEEE/ACM International Conference on*, pp. 966-971.

### *Working Papers*

- Bhattacharya, D. and Ram, S. 2017. How Common is Common? Identifying Overlaps Between Aggregate Activity Networks. Planned for *MIS Quarterly* in January 2016.
- Bhattacharya, D. and Ram, S. 2017. Identifying Backbone Networks of News Article Propagation. Planned for *Proceedings of the National Academy of Sciences (PNAS)* in February 2017.

- Bhattacharya, D., Currim, F. and Ram, S. 2017. An Empirical Study of Scaling Behavior of Common ETL Operations on Hadoop – A Tez Perspective. Planned for *Communications of the ACM* in April 2017.

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## **EMPLOYMENT**

<i>Aug 16 – Present</i>	<b>Post-Doctoral Research Associate</b> , INSITE, Eller College of Management, University of Arizona, Tucson
<i>Aug 10 – May 16</i>	<b>Research Associate</b> , INSITE, Eller College of Management, University of Arizona, Tucson
<i>Jan 10 – May 10</i>	<b>Research Assistant</b> , Advanced Database Research Group, Eller College of Management, University of Arizona, Tucson
<i>Aug 06 – June 09</i>	<b>Systems Engineer</b> , Tata Consultancy Services Ltd, Mumbai, India  Worked in various projects involving development and implementation of Business Intelligence and Data Warehousing applications for Financial Services and Insurance sector clients. Assumed the roles of <i>technical lead</i> , <i>data modeler</i> and <i>ETL developer</i> .

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## **TEACHING**

**Teaching Interests:** Subjects dealing with data – E.g. Big Data Analytics, Business Intelligence, Web Analytics, Database Management & Design, Data Mining.

### **Teaching Experience**

#### **Primary Instructional Role**

- Courses Taught at *Undergraduate* Level

**MIS 111: Computers and Internetworked Society** – (TCE Score: 4.13/5) Summer 2015

**MIS 111 Lab: Computers and Internetworked Society** – Summer 2015

- Courses Taught at *Graduate* Level

**MIS 545: Data Mining for Business Intelligence** – Spring 2013

#### **Secondary Instructional Role**

- Course as a Teaching Assistant – At a *Graduate* Level

**MIS 586: Big Data Analytics** – Fall 2014, Fall 2015, Fall 2016

**MIS 587: Business Intelligence** – Spring 2011, Spring 2012, Fall 2013

- Course as a Teaching Assistant – At an *Undergraduate* Level

**MIS 496A: Special Topics in Management Information Systems** – Spring 2014

**PRESENTATIONS**

- **December 2012, Orlando, Florida** - News Article Propagation on Twitter Based on Network Measures - an Exploratory Analysis. At 22nd Workshop on Information Technology and Systems.
  - **December 2013, Milan Italy** - Community Analysis of News Article Sharing on Twitter, At 23rd Workshop on Information Technology and Systems.
  - **December 2015, Dallas, Texas** - Modeling Social Media Based News Article Propagation: A Network and Probabilistic Theoretic Approach, At 25th Workshop on Information Technology and Systems.
  - **February 2016, Tucson, Arizona** - Comparing On-Demand and Local Hadoop Infrastructures: A Processing and Cost Efficiency Perspective, At MIS Speaker Series, Eller MIS Departmental Seminar.
  - **November 2016, Nashville, Tennessee** – (Forthcoming)- Analyzing Heterogeneity of User Participation Behavior in Online News Article Propagation, At INFORMS Annual Meeting 2016.
  - **January 2017, Tucson, Arizona** – (Forthcoming) – Identifying Backbone Networks of Online News Article Propagation, At MIS Speaker Series, Eller MIS Departmental Seminar.
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**REVIEWER**

Electric Commerce Research Journal (Springer)

Workshop on Information Technology and Systems

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**REFERENCES**

- **Sudha Ram**, [ram@eller.arizona.edu](mailto:ram@eller.arizona.edu) (520.621.4113)  
Anheuser-Busch Chair in MIS, Entrepreneurship, and Innovation; Professor of Management Information Systems; Director, INSITE: Center for Business Intelligence and Analytics, Eller College of Management, University of Arizona
- **Daniel Zeng**, [zeng@eller.arizona.edu](mailto:zeng@eller.arizona.edu) (520.621.4614)  
Gentile Family Professor of MIS, Eller College of Management, University of Arizona
- **Hong Cui**, [hongcui@email.arizona.edu](mailto:hongcui@email.arizona.edu) (520.621.3565)  
Director of Graduate Studies; Associate Professor, Information Technologies, School of Information, University of Arizona
- **Paulo Goes**, [pgoes@eller.arizona.edu](mailto:pgoes@eller.arizona.edu) (520.621.2125)  
Eller College Dean; Professor of Management Information Systems; Halle Chair in Leadership; Co-Director, INSITE: Center for Business Intelligence and Analytics, University of Arizona