Muhammad Imran

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RESEARCH INTERESTS

Understanding the role of Social Media during mass convergence events by using big data analysis techniques such as text classification, data mining, and interactive machine learning.

EDUCATION

Ph.D. Computer Science November 2009 – March 2013
University of Trento, Trento, Italy.
Concentration: Computer Science

M.S. Computer Science September 2005 – September 2007
Mohammad Ali Jinnah University, Islamabad, Pakistan.
Concentration: Computer Science

B.S. Computer Science January 2000 – December 2003
Allama Iqbal Open University, Islamabad, Pakistan.
Concentration: Computer Science

HONORS & AWARDS

- **Best Paper Award**, ISCRAM conference, Baden-Baden, Germany, 2013.
- Recipient of scholarship from Opera Universitaria Italy, for four years (2009-2013) for pursuing PhD studies, 2009.
- Distinguished position (1st place) in Master of Science (Computer Science) Degree, 2007.
- 2nd prize in all Pakistan universities programming competition, 2006.

SELECTED PUBLICATIONS

1. Muhammad Imran, Carlos Castillo, Ji Lucas, Patrick Meier, and Jakob Rogstadius. Coordinating Human and Machine Intelligence to Classify Microblog Communications in Crises. *11th International Conference on Information Systems for Crisis Response and Management*, 2014. Pennsylvania, USA.
2. Muhammad Imran, Carlos Castillo, Ji Lucas, Patrick Meier, and Sarah Vieweg. AIDR: Artificial Intelligence for Disaster Response. *WWW 2014 (companion)*, 2014, Seoul, Korea.
3. Muhammad Imran and Carlos Castillo. Volunteer-powered Automatic Classification of Social Media Messages for Public Health in AIDR. *Public Health in the Digital Age workshop in WWW 2014*, 2014, Seoul, Korea.
4. Muhammad Imran, Shady Elbassuoni, Carlos Castillo, Fernando Diaz and Patrick Meier. Extracting Information Nuggets from Disaster-Related Messages in Social Media. *10th International Conference on Information Systems for Crisis Response and Management*, May 2013, Baden-Baden, Germany.
5. Muhammad Imran, Shady Elbassuoni, Carlos Castillo, Fernando Diaz and Patrick Meier. Practical Extraction of Disaster-Relevant Information from Social Media. *SWDM-2013 at WWW-2013*, May 2013, Rio de Janeiro, Brazil.
6. Muhammad Moeen Uddin, Muhammad Imran, and Hassan Sajjad. Understanding Types of Users on Twitter. To appear in *SocialCom-Standford 2014*, May 2014, CA, USA.

7. Soudip Roy Chowdhury, Muhammad Imran, Muhammad Rizwan Asghar, Sihem Amer-Yahia and Carlos Castillo. Tweet4act: Using Incident-Specific Profiles for Classifying Crisis-Related Messages. *10th International Conference on Information Systems for Crisis Response and Management*, May 2013, Baden-Baden, Germany.
8. Muhammad Imran, Syed Zeeshan Haider Gillani and Maurizio Marchese. A Real-time Heuristic-based Unsupervised Method for Name Disambiguation in Digital Libraries. *JCDL-2013 WOSP*, July 2013, Indianapolis, USA.
9. Muhammad Imran, Stefano Soi, Felix Kling, Florian Daniel, Fabio Casati and Maurizio Marchese. On the Systematic Development of Domain-Specific Mashup Tools for End-Users. *ICWE-2012*, July 2012, Berlin, Germany.
10. Florian Daniel, Muhammad Imran, Stefano Soi, Antonella De Angeli, Christopher R. Wilkinson, Fabio Casati and Maurizio Marchese. Developing Mashup Tools for End-Users: On the Importance of the Application Domain. *International Journal of Next-Generation Computing (IJNGC)*, 2012.
11. Muhammad Imran, Felix Kling, Stefano Soi, Florian Daniel, Fabio Casati and Maurizio Marchese. ResEval Mash: A Mashup Tool for Advanced Research Evaluation. *WWW-2012*, France, Lyon.
12. Muhammad Imran, Florian Daniel, Fabio Casati, Maurizio Marchese. ResEval Mash: A Mashup Tool that Speaks the Language of the User. *CHI-2012*, Austin, USA.

(Full publication list at http://mimran.me/publications/)

RESEARCH EXPERIENCE

Post-doctoral Researcher April 2013 – Present
Qatar Computing Research Institute, Doha, Qatar
Responsibilities: At QCRI, my research focuses in the application of social media mining methods to problems in the humanitarian crises. Humanitarian crisis computing seeks to rapidly identify situational awareness, actionable and tactical information in the big crisis data available on social media such as Twitter. I'm leading AIDR (Artificial Intelligence for Disaster Response) project from research and technical aspects. The focus of this applied research project is to use social media specifically microblogging platforms like Twitter during mass convergence events and humanitarian crises in an effort to mine and classify information that can help stakeholders gain situation awareness and in their decision making processes.

Research Associate June 2012 – September 2012
Qatar Computing Research Institute, Doha, Qatar
Responsibilities: I was mainly involved in two research projects. The focus of the first project is to perform real-time social media analysis to predict the life span of an article posted on news websites such as Aljazeera. This involves examining various factors associated with the article like social media exposure; number of visits it receives during the first few hours and more, using time-series analysis techniques. The second project was related to the classification and extraction of useful information using machine learning methods from disaster-related tweets to assist stakeholders in disaster response.

PhD Candidate November 2009 – March 2013
University of Trento, Trento, Italy
Responsibilities: As a PhD candidate, I mainly worked on the research direction of end-user development leveraging Domain-Specific Mashups approach. The focus of this research work was to enable non-programmers, non-technical users to perform

their daily life complex data aggregation, processing and analysis tasks effectively using Web 2.0 technologies.

TECHNICAL EXPERIENCE

Database Administrator July 2007 – August 2008
National University of Science & Technology (NUST), Islamabad, Pakistan
Responsibilities: At NUST, I was responsible for managing Oracle database mainly for administrative purposes like performance tuning, query execution, tuning execution plans.

Java Developer (Intern) February 2009 – May 2009
OKKAM, Trento, Italy
Responsibilities: At OKKAM, I worked with their research team to assist them analyzing big log files to investigate how complex systems operations execute under different circumstances. For example, this includes checking how much time a search query takes to find an entity in the OKKAM entities database, or why certain part of a query failed, etc.

PROFESSIONAL ACTIVITIES

- **Track Co-chair:**
  - International Conference on Information Systems for Crisis Response and Management (ISCRAM 2015).

- **Program committee member:**
  - International Conference on Information Systems for Crisis Response and Management-Mediterranean (ISCRAM-Med 2014).
  - International Conference on Emerging Technologies (ICET 2014).

- **Reviewer:**
  - International Conference on Web Information System Engineering (WISE 2014).
  - International Conference on Information Systems for Crisis Response and Management (ISCRAM 2014).
  - ACM Web Science Conference 2014 (WebSci14).
  - International Conference on Web Engineering (ICWE 2012).

- **Professional member:**
  - Association for Computing Machinery (ACM) professional member since 2012.
  - ISCRAM community professional member since 2012.

TEACHING EXPERIENCE

- Service-Oriented Architecture and Applications – course held by Prof. Maurizio Marchese at the University of Trento, 2010 – 2011.
- Laboratory for Service Design and Engineering – course held by Prof. Maurizio Marchese at the University of Trento, 2011 – 2012.

CERTIFICATIONS

- *Oracle Certified Professional (OCP)*
  Major: Database Administration
  California, USA

TECHNICAL SKILLS

- **Programming skills**: JAVA— SE, EE, EJBs, JADE, Web services (RESTFul, SOAP), Hibernate, SAX, JAXB, Python
- **Database skills**: Oracle database, MySQL, MS-SQL Server, Redis