

Jalal Mahmud

Research Staff Member, Research Manager, Master Inventor and member of IBM Academy of Technology

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RESEARCH INTERESTS

Computational User Modeling, Web Analytics, Social Media Analysis, Intelligent User Interface, Machine Learning, Data Mining.

EDUCATION

Stony Brook University, Stony Brook, NY, USA. **PhD**, Computer Science, Aug 2008,

Thesis Title: Transaction Models for Web Accessibility

Advised by Prof. I.V. Ramakrishnan

Thesis Committee: Prof I.V. Ramakrishnan (Stony Brook), Prof. C.R. Ramakrishnan (Stony Brook), Prof. David Warren (Stony Brook), Dr. Yan-Wu Huang (IBM Research).

Stony Brook University, Stony Brook, NY, USA. **MS**, Computer Science, 2006, CGPA 3.92/4.00.

Bangladesh University of Engineering & Technology (BUET), Dhaka, Bangladesh **B.SC**, CSE 2003, CGPA 3.95/4.00.

PROFESSIONAL EXPERIENCE

Research Manager: Personality Analysis, IBM Watson Innovation, IBM Research - Almaden (Dec 2014 - current):

- Leading a team of research scientists and engineers working on personality insight solutions for IBM Watson Innovation.
- Created research agenda and led multiple research deliverables to IBM Watson Platform
- Led development of emotion modeling and text tone analyzer service
- Presented technology to clients
- Recruited team members and mentored for their career growth

Research Staff Member: User Systems and Experience Research (USER) Group, IBM Research - Almaden (Oct 2008- current):

- Conducted research on social media analysis and engagement, user modeling from social media, social collaboration tools, web task models and intelligent browsing, web automaton and testing.
- Delivered research result to IBM Watson Developer Cloud as Personality Insight API
- Developed prototype (using J2EE) to bridge email and collaboration tool as part of IBM's Lotus research JP program project.
- Developed website testing tool (using JavaScript) for functional testing and delivered to IBM's Rational Functional Tester product.
- Developed and implemented algorithms for task based web information retrieval, and web task models (using Java) from browser log analysis.
- Developed an algorithm to infer location of a Twitter user, implemented the algorithm (using Java), and delivered the POC as part of IBM's First-of-a-Kind (FOAK) program and

- IBM's customer engagement.
- Developed models of users' likelihood to respond and information spreading from social media and delivered research result to DARPA funded project and IBM's customer engagements.
 - Developed models of user attitude from social media and delivered research result to DARPA funded project.
 - Published papers at top-rated conferences, received multiple best paper nominations.
 - Filed 30+ patents and received numerous patent awards.
 - Collaborated with world-wide research and product teams, and led deliverables in various research projects.

Research Assistant Applied Logic Lab, CS Department, Stony Brook University, Stony Brook, NY, U.S.A (Summer 2005 – May 2006, Sep 2006- May 2007, Sep 2007-Aug 2008):

- Conducted research on improving web accessibility. Developed geometric segmentation and contextual relevancy detection module (using Java) for CSurf system, which uses context of a link to identify relevant section from the next Web page.
- Designed and implemented (using Java) an automata-based process models that support online transactions under constrained interaction modalities such as handheld devices or speech.
- Developed automated construction of web accessibility models to improve web accessibility.
- Developed TranSac that identifies and presents semantic concepts (e.g., search form, add to cart) from Web pages for conducting a Web transaction using speech or handheld devices.
- Conducted research on text segmentation and developed CRF based solution.
- Conducted research on protein active site profiler, and developed PHMM based solution to made profile of protein families from their 3 dimensional structures of active sites. Used Perl Script for Scripting functionalities and C++ programming language in this project.
- Published papers at top-rated conferences, received multiple best paper nominations.

Research Intern, e-business Framework Group, IBM T.J. Watson Research Center, Hawthorne, NY, USA (Summer 2007):

- Conducted research on improving user experience in virtual world using contextual information from web.
- Developed an infra-structure for bridging web and virtual world applications (Second Life) such that Web applications can control, monitor and collect information from artifacts in the virtual worlds, and vice versa. Used Second Life as Virtual World, Apache Tomcat as Web Server, PHP for Server Side Bridging Services, HTML, XML, JavaScript and AJAX for Client Side Bridging Services, MySQL for Database functionalities, Linden Scripts for Virtual World Services.

Engineering Intern, Payment Fraud and Risk Engineering Group, Google Inc, Mountain View, CA, USA (Summer 2006):

- Developed code to enhance rule engine component for payment fraud and risk engineering team. Designed and implemented simpler XML representation and decision tree based system to analyze risk and detect the payment fraud.

- Enhanced the load testing of risk engine with a random request builder. Integrated the request builder with client threads of the risk engine server to get uniform request at server side and monitor the system performance. Worked in UNIX Environment and used Java Programming Language.

Software Developer & Database Designer Dhaka Stock Exchange Project, Department of CSE, BUET (Jan 2004-Jul 2004):

- *Developed code using J2EE, designed database schema in Oracle and implemented the design.*

TEACHING EXPERIENCE

Teaching Assistant CS Department, Stony Brook University, Stony Brook, NY, U.S.A (Aug 2004 - May 2005):

- *Supervised course projects, graded exam papers, conducted demo sessions, tutorial classes.*

Lecturer Department of CSE, Bangladesh University of Engineering and Technology (BUET), Bangladesh(Mar 2003-Jul 2004):

- *Prepared course materials, taught courses, conducted lab sessions, supervised projects, graded exams.*

Guest Lecturer Department of CS, American International University (AIUB), Bangladesh (June 2003 - Dec 2003)

- *Prepared course materials, taught courses, conducted lab sessions, graded exams*

Guest Lecturer Department of CS, Military Institute of Science and Technology (MIST), Bangladesh (Sep 2003 - Dec 2003)

- *Conducted lab sessions, graded lab projects*

Instructor Institute of Information and Communication Technology (IICT), Bangladesh(June 2002-Aug 2002):

- *Taught programming course, conducted lab sessions.*

TECHNICAL SKILLS

Programming Languages: Java, C, C++, Python

Tools: R, SPSS, MATLAB, WEKA, MALLETT

Web Development: PHP, JSP, Servlet, Ruby on Rails, HTML, XML, AJAX, JSON

Development Tool: Eclipse, JBuilder, CBuilder, MS Visual C/C++

Operating Systems: UNIX, Linux, Windows 9X/NT/2000/XP

DBMS: SQL, Oracle, MYSQL.

AWARDS AND HONORS

IBM Academy of Technology: Selected as member of IBM Academy of Technology. The IBM Academy of Technology was founded in 1989 and modeled after the US National Academies of Sciences and Engineering. It focuses on the technical underpinnings of IBM's future. Its membership consists of over 800 of IBM's top technical leaders from around the world who are working in research, hardware and software development, manufacturing, applications, and

services.

IBM Master Inventor: Awarded by IBM Corporation. An IBM Master Inventor is an individual selected by IBM. The qualification and appointment to Master Inventor is governed by the value to IBM of an inventor's contribution to the patent portfolio, and through defensive publication (published in www.ip.com). IBM weighs many aspects of an inventor's contributions, including but not limited to impact of invention through licensing, inclusion in product, and percentage of patents with a measurable impact. IBM also considers an individual's contribution to the inventing community inside IBM, whether by acting as a patent reviewer, or providing feedback and guidance to new inventors.

INVENTION ACHIEVEMENT AWARD: Awarded by IBM Corporation for filing each patent (23 issued patents, and 16 other pending).

INVENTION PLATAU AWARD: IBM Corporation, awarded 9 times (every 4th patent application makes a Platau).

HIGH VALUE PATENT AWARD: Awarded for **USPTO Application #:** 20090100352, “Method and Apparatus for Bridging Real-World Web Applications and 3D Virtual Worlds”.

HIGH VALUE PATENT AWARD: Awarded for **USPTO Application #:** 13/218686, “Automatic Detection of Item Lists Within a Web Page”.

HIGH VALUE PATENT AWARD: Awarded for **USPTO Application #:** ARC920140032US1, “Action Based Trust Modeling”.

BEST PAPER NOMINATION, IUI 2012: My paper "Towards Automatic Functional Test Execution", was nominated for Best Paper Award in IUI 2012 (<http://iuiconf.org/index.html>). Only 4 out of 18 accepted full papers were nominated for Best Paper Award, 200+ papers submitted in total, i.e. 9.6% acceptance rate.

BEST PAPER NOMINATION, IUI 2013: My paper "Recommending Targeted Strangers for Answering Questions in Social Media", was nominated for Best Paper Award in IUI 2013 (<http://iuiconf.org/index.html>). Only 4 out of 43 accepted full papers were nominated for Best Paper Award, 198 papers submitted in total, i.e. 21% acceptance rate.

BEST PAPER NOMINATION, IUI 2014: My paper "Who Will Retweet This? Automatically Identifying and Engaging Strangers on Twitter to Spread Information", was nominated for Best Paper Award in IUI 2014. Only 4 out of 45 accepted full papers were nominated for Best Paper Award, 190 papers submitted in total, i.e. 24% acceptance rate.

BASEX EXCELLENCE AWARD: Awarded to IBM Corporation for research contribution to reduce Information overload in Email. Mail Triage and Topika was recognized in this award. I was one of the core contributor of Topika project.

EXCELLENCE in GRADUATE RESEARCH: Department of Computer Science, Stony Brook University (Awarded in 2007) for research accomplishment (publications, awards) in the year of 2007.

BEST PAPER NOMINATION, WWW 2006: My paper "Model-directed Web Transactions under Constrained Modalities", was nominated for Best Paper Award in WWW 2006 (<http://www2006.org>). Only 5 out of 75 accepted papers were nominated for Best Paper Award, 667 papers submitted in total, i.e. 11% acceptance rate.

BEST PAPER NOMINATION, WWW 2007: My paper "CSurf: A Context-Driven Non-Visual Web-Browser", was nominated for Best Paper Award in WWW 2007 (<http://www2007.org/awards.php>). Only 3 out of 111 accepted papers were nominated for Best Paper Award, 667 papers submitted in total, i.e. 15% acceptance rate.

DELEGATES AWARD: W4A Web Accessibility Challenge 2007: Awarded as a participant of HearSay project – a Web browser for the blind users (<http://www.w4a.info/2007/>).

UNIVERSITY FELLOWSHIP: Stony Brook University 2004-2005. Awarded only to the top 20% students admitted to the graduate program of Computer Science.

PRIME MINISTER AWARD: Bangladesh Govt. (Awarded in 1996 for being placed **16th** among **250,000** students in H.S.C (Equivalent to 'A' Level) Exam).

AWARD FOR EXCELLENCE: Notre Dame College, Dhaka (Awarded in 1996 for being **FIRST** in Higher Secondary Level at Notre Dame College).

DEANS AWARD: Bangladesh University of Engineering and Technology, (**BUET**). (Awarded in all academic year of undergraduate study for maintaining CGPA above 3.75 in all academic years)

Fifth Place: Intra BUET Programming Competition, BUET, DHAKA.

2nd PLACE: SELECTION FOR NATIONAL PROGRAMMING CONTEST, BUET DHAKA.

HONOURARY MENTION: ACM ICPC PROGRAMMING COMPETITION, DHAKA REGION.

PUBLICATIONS

JOURNAL

[J.9] Kyumin Lee, **Jalal Mahmud**, Jilin Chen, Michelle Zhou, Jeffrey Nichols . "Who Will Retweet This? Detecting Strangers from Twitter to Retweet Information", ACM Transactions on Intelligent Systems and Technology (TIST), Vol 6, Issue 3.

[J.8] **Jalal Mahmud**, Jeffrey Nichols, Clemens Drews, "Home Location Identification of Twitter Users", ACM Transactions on Intelligent Systems and Technology (TIST), Vol 5, Issue 3.

[J.7] Saleema Amershi, **Jalal Mahmud**, Jeffrey Nichols, Tessa Lau, German Ruiz, "LiveAction: Automating Web Task Model Generation", ACM Transactions on Intelligent Information Systems (TIIS), Vol 3. Issue 3, Oct 2013.

[J.6] **Jalal Mahmud**, Allen Cypher, Eben Haber, Tessa Lau, "Design and Industrial Evaluation of a

Tool Supporting Semi-Automated Testing”, Software Testing, Verification and Reliability, John Wiley & Sons. Online version available from Sep, 2012.

[J.5] Yevgen Borodin, Valentin Polishchuk, **Jalal Mahmud**, I.V. Ramakrishnan, Amanda Stent "Live and Learn from Mistakes: A Lightweight System for Document Classification”, Information Processing and Management, Elsevier Science Publishers, Online version available from March, 2012.

[J.4] **Jalal Mahmud**, I.V. Ramakrishnan, "Transaction Models for Web Accessibility”, World Wide Web, 15 (4), 2012.

[J.3] I.V. Ramakrishnan, **Jalal Mahmud**, Yevgen Borodin, Muhammad Asiful Islam and Faisal Ahmed, "Bridging the Web Accessibility Divide”, Electronic Notes of Theoretical Computer Science (ENTCS), Volume 235 , (April 2009), Elsevier Science Publishers.

[J.2] Yevgen Borodin, **Jalal Mahmud**, Asad Ahmad and I.V. Ramakrishnan, "WEBVAT: Web Page Analysis and Visualization Tool", Lecture Notes in Computer Science, Springer, Vol: 4607, 2007.

[J.1] Zan Sun, **Jalal Mahmud**, Saikat Mukherjee and I.V. Ramakrishnan, "Model-directed Web Transactions under Constrained Modalities”, ACM Transactions on the Web (TWEB), Volume 1, Issue 3 (September 2007).

REFEREED CONFERENCE

[C.38] Anbang Xu, Haibin Liu, Liang Gou, Rama Akkiraju, **Jalal Mahmud**, Vibha Sinha, Yuheng Hu, Mu Qiao, "Predicting Perceived Brand Personality with Social Media", ICWSM 2016

[C.37] Bin Xu, Liang Gou, Anbang Xu, Dan Cosley and **Jalal Mahmud**, "Raising Awareness of Conveyed Personality in Social Media Traces", ICWSM 2016

[C.36] Yi Wang, **Jalal Mahmud**, Taikun Liu, "Understanding Cognitive Styles from User-generated social media Content", ICWSM 2016.

[C.35] **Jalal Mahmud**, Geli Fei, Anbang Xu, Aditya Pal, Michelle Zhou, "Predicting Attitude and Actions of Twitter Users", IUI 2016.

[C.34] Himel Dev, Mohammed Eunos Ali, **Jalal Mahmud**, Tanmoy Shen, Madhusudan Basak, Rajshakhar Paul, "A Real-Time Crowd-Powered Testbed for Content Assessment of Potential Social Media Posts.", SocInfo 2015.

[C.33] Chao Yang, Shimei Pan, **Jalal Mahmud**, Huahai Yang, Padmini Srinivasan, "Using Personal Traits for Brand Preference Prediction", EMNLP 2015.

[C.32] Hasan Al Maruf, Nagib Meshkat, Mohammed Eunos Ali, **Jalal Mahmud**, "Human Behavior in Different Social Medias: A Case Study of Twitter and Disqus", ASONAM 2015.

[C.31] Jilin Chen, Eben Haber, Rougu Kang, Gary Hsieh, **Jalal Mahmud**, "Making Use of Derived Personality: The Case of Social Media Ad Targeting", ICWSM 2015, May 2015, Oxford, UK.

[C.30] Tara Mathews, **Jalal Mahmud**, Jilin Chen, Michael Muller, Eben Haber, Harnen Badenes, "They Said What? Exploring the Relationship Between Language Use and Member Satisfaction in Communities", CSCW 2015, March 2015, Vancouver, BC.

[C.29] **Jalal Mahmud**, "Why Do You Write This? Prediction of Influencers from Word Use", ICWSM 2014, June 2014, Ann Arbor, Michigan.

[C.28] **Jalal Mahmud**, Huiji Gao, "Why Do You Spread This Message? Understanding Users Sentiment in Social Media Campaigns", ICWSM 2014, June 2014, Ann Arbor, Michigan.

[C.27] Huiji Gao, **Jalal Mahmud**, Jilin Chen, Jeffrey Nichols, Michelle Zhou, "Modeling User Attitude toward Controversial Topics in Online Social Media", ICWSM 2014, June 2014, Ann Arbor, Michigan.

[C.26] Gary Hsieh, Jilin Chen, **Jalal Mahmud**, Jeffrey Nichols, "You Read What You Value: Understanding Personal Values and Reading Interests", CHI 2014, April 2014, Toronto, Canada.

[C.25] Kyumin Lee, **Jalal Mahmud**, Jilin Chen, Michelle Zhou, Jeffrey Nichols, "Who Will Retweet This? Automatically Identifying and Engaging Strangers on Twitter to Spread Information", IUI 2014, Feb 2014, Haifa, Israel. **(Nominated for Best Paper Award)**

[C.24] Jilin Chen, Gary Hsieh, **Jalal Mahmud**, Jeffrey Nichols, "Understanding Individuals' Personal Values from Social Media Word Use", CSCW 2014, Feb 2014, Baltimore, USA.

[C.23] **Jalal Mahmud**, Jilin Chen, Jeffrey Nichols, "When Will You Answer This? Estimating Response Time in Twitter", ICWSM 2013, July 2013, Boston, USA.

[C.22] **Jalal Mahmud**, Michelle Zhou, Nimrod Megiddo, Jeffrey Nichols, Clemens Drews, "Recommending Targeted Strangers for Answering Questions in Social Media", IUI 2013, March 2013, Santa Monica, CA. **(Nominated for Best Paper Award)**

[C.21] **Jalal Mahmud**, Jeffrey Nichols, Clemens Drews, "Where is This Tweet From? Inferring Home Locations of Twitter Users", ICWSM 2012, June 2012, Dublin, Ireland (Short Paper).

[C.20] **Jalal Mahmud**, Clemens Drews, Michael Collins, Arnaldo-Carreno Fuentes, Joel Bullard, Mark Vickstorm, Margaret Cho, "Test-driven Development for the Web - Increasing Efficiency of Web Development", CHI 2012 Extended Abstract, May 2012, Austin, TX.

[C.19] Jeffrey Nichols, **Jalal Mahmud**, Clemens Drews, "Summarizing Sporting Events using Twitter", IUI 2012, 14-17 Feb 2012, Lisbon, Portugal. (9.6% acceptance rate).

[C.18] Pablo Pedemonte, **Jalal Mahmud**, Tessa Lau, "Towards Automatic Functional Test Execution", IUI 2012, 14-17 Feb 2012, Lisbon, Portugal. **(Nominated for Best Paper Award)** (9.6% acceptance rate).

[C.17] **Jalal Mahmud**, Tara Matthews, Steve Whittaker, Tom Moran, Tessa Lau, "Topika: Integrating Collaborative Sharing with Email", CHI 2011, 8-12 May 2011, Vancouver, Canada. (26% acceptance rate).

[C.16] Ifiyenya Okoye, **Jalal Mahmud**, Tessa Lau, Julian Cerruti, "Find This for Me: Mobile Information Retrieval on the Open Web", IUI 2011, 13-16 Feb 2011, Palo Alto, USA. (17% acceptance rate)

[C.15] **Jalal Mahmud**, and Tessa Lau, "Lowering the Barriers to Website Testing with CoTester", IUI 2010, 7-10 Feb 2010, Hong Kong, China. (23.26% acceptance rate)

[C.14] **Jalal Mahmud**, Yun-Wu Huang, John Ponzo, Roger Pollak, "Avara: A System to Improve User Experience in Web and Virtual World", IUI 2010, 7-10 Feb 2010, Hong Kong, China. (23.26% acceptance rate) (Short Paper)

[C.13] Muhammad Asiful Islam, Faisal Ahmed, Yevgen Borodin, **Jalal Mahmud**, I.V. Ramakrishnan, "Improving Accessibility of Transaction-centric Web Objects", SDM 2010, Columbus, Ohio.

[C.12] **Jalal Mahmud**, Yevgen Borodin, I.V. Ramakrishnan and C.R.Ramakrishnan, "Automated Construction of Web Accessibility Models from Transactions Click Streams", WWW 2009, 22-24 Apr 2009, Madrid, Spain. (11.26% acceptance rate)

[C.11] **Jalal Mahmud**, Yevgen Borodin and I.V. Ramakrishnan, " An Assistive Browser for Conducting Web Transactions", International Conference on Intelligent User Interface (IUI), 2008 (Short Paper).

[C.10] Chang Zhao, **Jalal Mahmud**, I.V. Ramakrishnan, "Exploiting Structured Reference Data for unsupervised Text Segmentation with Conditional Random Fields", SIAM International Conference of Data Mining (SDM) 2008, April 24-26, 2008, Atlanta, USA.

[C.9] Hui Guo, **Jalal Mahmud**, Yevgen Borodin, Amanda Stent and I.V. Ramakrishnan, " A General Approach for Partitioning Web Page Content Based on Geometric and Style Information", 9th International Conference on Document Analysis and Recognition (ICDAR), 2007.

[C.8] **Jalal Mahmud**, Yevgen Borodin and I.V. Ramakrishnan, "CSurf: A Context-Driven Non-Visual Web-Browser", International World Wide Web Conference WWW'2007, 8-12 May 2007, Banff, Canada. (**Nominated for Best Paper Award**). (14.7% acceptance rate)

[C.7] Yevgen Borodin, **Jalal Mahmud** and I.V. Ramakrishnan, " Context Browsing with Mobiles - When Less is More" , 5th International Conference on Mobile Systems, Applications and Services, ACM/USENIX MobiSys 2007, 11-14 June 2007, San Juan, Puerto Rico.

[C.6] **Jalal Mahmud** , "Information Overload in Non-Visual Web Transaction: Context Analysis Spells Relief, ACM Student Research Competition at Ninth International ACM SIGACCESS Conference on Computers & Accessibility, ASSETS 2007, Tempe, Arizona, USA (Short Paper).

[C.5] Yevgen Borodin, **Jalal Mahmud**, Asad Ahmad and I.V. Ramakrishnan, "WEBVAT: Web Page

Analysis and Visualization Tool", International Conference on Web Engineering (ICWE), 2007, July 16-20, Como, Italy.

[C.4] Yevgen Borodin, **Jalal Mahmud**, I.V. Ramakrishnan and Amanda Stent , "The HearSay Non-Visual Web Browser", International Cross-Disciplinary Conference on Web Accesibility (W4A), co-located with WWW 2007, 8 May 2007, Banff, Canada (Demo Paper) (**Winner of Delegates Award**)

[C.3] Chang Zhao, **Jalal Mahmud**, I.V. Ramakrishnan and Subramanyam Swaminathan, "Computing Statistical Profiles of Active Sites in Proteins", SIAM International Conference of Data Mining (SDM) 2007, April 26-28, 2007, Minneapolis, Minesota, USA (Short Paper).

[C.2] **Jalal Mahmud**, Yevgen Borodin, Dipanjan Das and I.V. Ramakrishnan, "Combating Information Overload in Non-visual Web Access Using Context", International Conference on Intelligent User Interface, IUI 2007, 28-31 Jan, Hawaii, USA (Short Paper).

[C.1] Zan Sun, **Jalal Mahmud**, Saikat Mukherjee and I.V. Ramakrishnan, "Model-directed Web Transactions under Constrained Modalities", International World Wide Web Conference WWW'2006, 23-26 May 2006, Edinburgh, Scotland. (**Nominated for Best Paper Award**). (11% acceptance rate)

WORKSHOP

[W.3] Jeffrey Nichols and **Jalal Mahmud**, "Data Capture with the Crowd: Exploring the Continuum of Implicit to Explicit", Workshop on Crowd-sourcing and Human Computation, in conjunction with CHI 2011, Vancouver, Canada.

[W.2] **Jalal Mahmud**, Yevgen Borodin and I.V. Ramakrishnan, "Content Analysis Techniques to Ease Browsing with Handhelds" , MobEA V, in conjunction with WWW 2007, 8 May 2007, Banff, Canada.

[W.1] **Jalal Mahmud**, Zan Sun, Saikat Mukherjee and I.V. Ramakrishnan, "Web Transactions on handhelds with Less Tears", MobEA IV – Empowering the Mobile Web, in conjunction with WWW 2006, 23 May 2006, Edinburgh, Scotland.

DEMO

[D.3] Robert DeLoatch, Liang Gou, Chris Kau, **Jalal Mahmud**, Michelle Zhou. ScopeG: A Mobile Application for Exploration and Comparison of Personality Traits. IUI 2016.

[D.2] Hernan Badenes , Mateo Bengualid, Jilin Chen, Liang Gou, Eben Haber, **Jalal Mahmud**, Jeffrey Nichols, Aditya Pal, Jerald Schoudt, Barton Smith, Ying Xuan, Huahai Yang, Michelle Zhou: "System U: Automatically Deriving Personality Traits from Social Media for People Recommendation", ACM RecSys 2014, Foster City, CA, USA.

[D.1] Liang Gou, **Jalal Mahmud**, Eben Haber, Michelle Zhou, "PersonalityViz: A Visualization Tool to Analyze People's Personality with Social Media", ACM IUI 2013, Santa Monica, USA.

POSTER

[P.7] Md. Mahbubur Rahman, Md Taksir Hasan Majumder, Md Saddam Hossain Mukta, Mohammed Eunos Ali, **Jalal Mahmud**: Can we predict eat-out preference of a person from tweets? WebSci2016.

[P.6] Jacob Thebault-Spieker, Anbang Xu, Jilin Chen, **Jalal Mahmud**, Jeffrey Nichols, "Exploring Engagement in a 'Social Crowd' on Twitter", CSCW 2016.

[P.5] **Jalal Mahmud**, "Tweet This or Not? Predicting Twitter Users Actions from Sentiment", SocialCom 2014, Stanford, CA, USA.

[P.4] Hasan Al Maruf, **Jalal Mahmud**, Mohammed Eunos Ali, "Can Hashtags Bear the Testimony of Personality? Predicting Personality from Hashtag Use", SocialCom 2014, Stanford, CA, USA.

[P.3] **Jalal Mahmud**, "Improving Rich Internet Application Development using Patterns", ACM IUI 2013, Santa Monica, USA.

[P.2] **Jalal Mahmud**, Yevgen Borodin, Dipanjan Das and I.V. Ramakrishnan, "Improving Non-visual Web Access Using Context", Eighth International ACM SIGACCESS Conference on Computers & Accessibility, ASSETS 2006, Portland, Oregon, USA.

[P.1] **Jalal Mahmud**, Chang Zhao and I.V. Ramakrishnan, "Profiling Tertiary Protein Motifs using PHMM", Poster Presentation at International Symposium at Molecular Biology (ISMB) 2006, August 6-10 Fortaleza, Brazil.

BOOK

[B.1] **Jalal Mahmud**, "Transaction Models for Web Accessibility", ISBN: 3639233026, published by, VDM Verlag Dr. Muller.

TECHNICAL REPORT

[T.1] **Jalal Mahmud**, "A Survey of Inductive Learning", Stony Brook University Technical Report, 2006.

[T.2] **Jalal Mahmud**, "Transaction Models for Web Accessibility", Stony Brook University Technical Report, 2008.

PATENT ISSUED

[1] Yan Wu Huang, **Jalal Mahmud**, Roger Pollak, John Ponzio, **RATING VIRTUAL WORLD MARCHANDISE THROUGH AVATAR VISITS**. US Patent # 8171407

[2] Yan Wu Huang, **Jalal Mahmud**, Roger Pollak, John Ponzio. **BRIDGING REAL-WORLD WEB APPLICATIONS AND 3D VIRTUAL WORLDS**: US Patent # 8370370

[3] Yan Wu Huang, **Jalal Mahmud**, Roger Pollak, John Ponzio. **METHOD AND APPARATUS FOR BRIDGING REAL-WORLD WEB APPLICATIONS AND 3D VIRTUAL WORLDS**: CN Patent # ZL200880110959.3

[4] Yan Wu Huang, **Jalal Mahmud**, Roger Pollak, John Ponzio. **METHOD AND APPARATUS FOR BRIDGING REAL-WORLD WEB APPLICATIONS AND 3D VIRTUAL WORLDS**: JP Patent # 5225385

[5] **Jalal Mahmud**, Tessa Lau, **AUTOMATIC IDENTIFICATION OF SUBROUTINES FROM TEST SCRIPTS**: US Patent # 8490056

[6] **Jalal Mahmud**, Tessa Lau, **AUTOMATIC IDENTIFICATION OF SUBROUTINES FROM TEST SCRIPTS**: US Patent # 8732666

[7] **Jalal Mahmud**, Eser Kandogan, Barton Smith, **BRAND ANALYSIS USING INTERACTIONS WITH SEARCH RESULT ITEMS**, US Patent # 8639560

[8] **Jalal Mahmud**, Eser Kandogan, Barton Smith, **BRAND ANALYSIS USING INTERACTIONS WITH SEARCH RESULT ITEMS**, US Patent # 8639559

[9] Pablo Pedemonte, **Jalal Mahmud**, Tessa Lau, **SEMI-AUTOMATIC CONVERSION AND EXECUTION OF FUNCTIONAL MANUAL TESTS**, , US Patent # 8799720

[10] **Jalal Mahmud**, **AUTOMATIC DETECTION OF ITEM LIST FROM INTERACTION LOGS AND WEBPAGE**, US Patent # 8806330

[11] **Jalal Mahmud**, Clemens Drews, Michael Collins, Arnaldo Carreño-Fuentes, Joel A. Bullard, Mark D. Vickstorm, Margaret Cho, **AUTOMATIC GENERATION OF USER INTERFACES**, US Patent # 8799866

[12] **Jalal Mahmud**, **MAINTANENCE OF A SUBROUTINE REPOSITORY FOR AN APPLICATION UNDER TEST BASED ON SUBROUTINE USAGE INFORMATION**, US Patent # 8904350

[13] **Jalal Mahmud**, **MAINTANENCE OF A SUBROUTINE REPOSITORY FOR AN APPLICATION UNDER TEST BASED ON SUBROUTINE USAGE INFORMATION**, US Patent # 8904351

[14] **Jalal Mahmud**, Clemens Drews, Michael Collins, Arnaldo Carreño-Fuentes, Joel A. Bullard, Mark D. Vickstorm, Margaret Cho, **INTERACTIVE SEMI-AUTOMATIC TEST CASE MAINTANENCE**, US Patent # 8954933

[15] **Jalal Mahmud**, Clemens Drews, Michael Collins, Arnaldo Carreño-Fuentes, Joel A. Bullard, Mark D. Vickstorm, Margaret Cho, **INTERACTIVE SEMI-AUTOMATIC TEST CASE MAINTANENCE**, US Patent # 8972496

[16] Pablo Pedemonte, **Jalal Mahmud**, Tessa Lau, **SEMI-AUTOMATIC CONVERSION AND EXECUTION OF FUNCTIONAL MANUAL TESTS**, US Patent # 8984348

[17] **Jalal Mahmud**, Jeffrey Nichols, Clemens Drews, **LOCATION ESTIMATION OF SOCIAL NETWORK USERS**, , US Patent # 8990327

[18] **Jalal Mahmud**, Jeffrey Nichols, Clemens Drews, **LOCATION ESTIMATION OF SOCIAL**

NETWORK USERS, , US Patent # 8904351

[19] **Jalal Mahmud**, Nimrod Megiddo, Michelle Zhou, Jeffrey Nichols. **OPTIMIZING USER SELECTION FOR PERFORMING TASKS IN SOCIAL NETWORKS**, US Patent #: 9026541

[20] **Jalal Mahmud**, Jilin Chen, Jeffrey Nichols. **PREDICTING USER ACTIVITY FOR SOCIAL MEDIA APPLICATIONS**, US Patent #: 9117179

[21] **Jalal Mahmud**, Kyumin Lee, Jilin Chen, **SELECTING STRANGERS FOR INFORMATION SPREADING ON A SOCIAL NETWORK**, US Patent #: 9251475

[22] **Jalal Mahmud**, Nimrod Megiddo, Michelle Zhou, Jeffrey Nichols. **OPTIMIZING USER SELECTION FOR PERFORMING TASKS IN SOCIAL NETWORKS**, US Patent #: 9299115

[23] **Jalal Mahmud**, **AUTOMATIC DETECTION OF ITEM LIST FROM INTERACTION LOGS AND WEBPAGE**, US Patent # 9251287

PATENT APPLICATIONS (PENDING)

[1] **Jalal Mahmud**, Tessa Lau, **NATURAL LANGUAGE ASSERTION TO TEST USER INTERFACE WIDGETS**, USPTO Application #, 12/883352

[2] **Jalal Mahmud**, **AUTOMATIC GENERATION OF TASK SCRIPTS FROM WEB BROWSING INTERACTION HISTORY**. USPTO Application #: 13/016182.

[3] Eben Haber, **Jalal Mahmud**, **USING MEDIA INFORMATION FOR IMPROVING DIRECT MARKETING RESPONSE RATE**, USPTO Application # 13/774226.

[4] **Jalal Mahmud**, Kyumin Lee, Jilin Chen, Michelle Zhou, Jeffrey Nichols, **IDENTIFICATION OF USERS FOR INITIATING INFORMATION SPREADING IN A SOCIAL NETWORK**, USPTO Application # 13/799156.

[5] **Jalal Mahmud**, Chris Kau, **ENHANCING TEXT-BASED ELECTRONICS COMMUNICATIONS USING PSYCHO-LINGUISTICS**, USPTO Application # 13/888720.

[6] **Jalal Mahmud**, **SYSTEM AND METHOD FOR COMPUTATION OF RELEVANCE OF AN INDIVIDUAL WITH A CAMPAIGN IN SOCIAL MEDIA**, Patent Application #: US 14/133831.

[7] **Jalal Mahmud**, Jilin Chen, **TRAIT-BASED EARLY DETECTION OF INFLUENCERS ON SOCIAL MEDIA**, Patent Application #: US 14/269228.

[8] **Jalal Mahmud**, Huiji Gao, Jilin Chen, Michelle Zhou, **PREDICTING USER ATTITUDE TOWARDS A TARGET IN ONLINE SOCIAL MEDIA**, Patent Application #: US 14/293094.

[9] Aditya Pal, **Jalal Mahmud**, Fei Wang, **DETERMINING GROUP ATTRIBUTES AND MATCHING TASKS TO A GROUP**, USPTO Application #. US 14/300,342.

[10] **Jalal Mahmud**, Jilin Chen, Aditya Pal, Fei Wang, Sadat Shami, OPTIMIZATION OF TRAIT AND EXPERTISE FOR WORKFORCE SELECTION. Filed as Docket ARC920140004US1

[11] **Jalal Mahmud**, Aditya Pal, Mengdie Hu, Huahai Yang, Michelle Zhou, ACTION BASED TRUST MODELING, USPTO Application #: US 14/554092.

[12] **Jalal Mahmud**, Geli Fei, Aditya Pal, Michelle Zhou, ATTITUDE DETECTION, Filed as Docket **ARC920140079US1**

[13] **Jalal Mahmud**, Geli Fei, Aditya Pal, Michelle Zhou, ATTITUDE INFERENCE, Filed as Docket **ARC920150002US1**

[14] Anbang Xu, Haibin Liu, Liang Gou, Rama Akkiraju, **Jalal Mahmud**, Vibha Sinha , BRAND PERSONALITY INFERENCE AND RECOMMENDATION SYSTEM, Filed as Docket **AUS920150317US1**

[15] Anbang Xu, Haibin Liu, Liang Gou, Rama Akkiraju, **Jalal Mahmud**, Vibha Sinha , BRAND PERSONALITY COMPARISON ENGINE, Filed as Docket **AUS920150454US1**

[16] Anbang Xu, Haibin Liu, Liang Gou, Rama Akkiraju, **Jalal Mahmud**, Vibha Sinha, BRAND PERSONALITY PERCEPTION GAP IDENTIFICIATION AND GAP CLOSING RECOMMENDATION GENERATION, Filed as Docket **AUS920150455US1**

PROFESSIONAL SERVICE

Organizing Committee Member:

General co-chair, ACM International Conference on Intelligent User Interface (IUI), 2016.

Treasurer - ACM International Conference on Intelligent User Interface (IUI), 2015.

Poster and Demo Co-chair - ACM International Conference on Recommender Systems (RecSys), 2014.

Poster and Demo Co-chair - ACM International Conference on Intelligent User Interface (IUI), 2013.

PhD Symposium Co-chair - International Conference on World Wide Web (WWW), 2012

Workshop Co-chair - Data-driven User Behavioral Modeling and Mining from Social Media, in conjunction with ACM CIKM 2014

Workshop Co-chair - Data-driven User Behavioral Modeling and Mining from Social Media, in conjunction with ACM CIKM 2013

Workshop Co-chair - Data-driven User Behavioral Modeling and Mining from Social Media, in conjunction with ACM CIKM 2012

Workshop Co-chair - User Modeling from Social Media, in conjunction with ACM IUI 2012

Workshop Co-chair, New Paradigms in Using Computers (NPUC), 2010, an IBM Research Workshop.

Senior Program Committee Member:

International AAAI Conference on Web and Social Media (ICWSM), 2014

ACM International Conference on Intelligent User Interface (IUI), 2014

ACM International Conference on Intelligent User Interface (IUI), 2013

Program Committee Member:

ACM International Conference on Information and Knowledge Management (CIKM), 2013

International AAAI Conference on Web and Social Media (ICWSM), 2013

International Joint Conference on Artificial Intelligence (IJCAI), 2013

International Conference on World Wide Web (WWW), 2013

ACM International Conference on Information and Knowledge Management (CIKM), 2012

International Conference on User Modeling (UMAP), 2012

ACM SIGACCESS Conference on Computers and Accessibility (ASSETS), 2011

International Joint Conference on Artificial Intelligence (IJCAI), 2011

International Conference on World Wide Web (WWW), 2011

International Conference on Intelligent User Interface (IUI), 2011

International Conference on World Wide Web (WWW), 2009

IEEE International Workshop on Web and Pervasive Security (WPS 2009)

IEEE International Workshop on Security, Trust, and Privacy for Software Applications, STPSA 2010, in conjunction with COMPSAC 2010

Advisory Committee Member:

Workshop on Human and Technology (WHAT), 2013.

Conference Reviewer:

ACM Symposium on User Interface and System Technology (UIST), 2013, 2014.

ACM SIGACCESS Conference on Computers and Accessibility, 2010, 2011

International Conference on Computer Human Interaction (CHI), 2010, 2011, 2013, 2014, 2015

International Joint Conference on Artificial Intelligence (IJCAI), 2011

International Conference on Computer Supported Collaborative Work (CSCW), 2011, 2012, 2013, 2014

International Conference on Designing Interactive Systems (DIS), 2010

International Conference on World Wide Web (WWW), 2009, 2011

International Conference on Web Engineering (ICWE), 2007, 2009

International Conference of Logic Programming (ICLP), 2006

European Semantic Web Conference, 2007

W4A Web Accessibility Conference, 2008

ACM SIGCHI Symposium on Engineering Interactive Computing Systems, 2014

Journal Reviewer:

ACM Transactions on Interactive Intelligent Systems (ACM-TIIS)
ACM Transactions on Information Systems (ACM-TOIS)
ACM Transactions on the Web (ACM-TWEB)
ACM Transactions on Intelligent Systems and Technology (ACM-TIST)
ACM Transactions on Management Information Systems (ACM-TMIS)
IEEE Transactions on Knowledge and Data Engineering (TKDE)
International Journal of Web Service Research
IEEE Journal of Pervasive Computing
IEEE Journal on Selected Areas of Communication (JSAC on Network Science)

INVITED TALKS

Bangladesh University of Engineering and Technology, Feb, 2016
Bangladesh University of Engineering and Technology, June, 2013
University of Southern California, March, 2013
IBM T.J. Watson Research Center, Mar, 2008
Nokia Research Center, April, 2008
IBM Almaden Research Center, April, 2008
Brac University, Bangladesh, Jan, 2007.

SELECTED PRESS

1. My work on bridging email and collaboration tool usage got press coverage
 - Topika: Collaboration Through Email from the Innovation Lab, http://planetlotus.org/profiles/keith-brooks_64480
 - In the briefing room: Mail Triage and Topika: <http://www.baseblog.com/2010/02/04/itbr-mail-triage-topika/>
 - <http://darcc.blogspot.com/2010/10/award-winning-tools-from-ibm-research.html>
2. My work on mobile phone application for information extraction from Web got press coverage with other IBM smart-phone apps
 - <http://www.v3.co.uk/v3/news/2274560/ibm-smartphones-apple-android>
3. My work on home location identification of Twitter users got numerous press.
 - <http://www.technologyreview.com/view/525741/how-your-tweets-reveal-your-home-location/>
 - <http://finance.yahoo.com/news/tweets-tracking-devices-213303034.html>
 - <http://www.theatlantic.com/technology/archive/2014/03/when-tweets-are-tracking-devices/284584/>

- <http://blogs.marketwatch.com/themargin/2014/03/21/ibm-researchers-say-twitter-users-are-telling-the-whole-world-where-they-live/>
- <http://blogs.wsj.com/digits/2014/04/08/the-race-to-locate-twitter-users/>
- <http://www.ablxboston.com/national/46656-tracking-you-in-140-characters-or-less-researchers-develop-formula-to-reveal-home-location-based-on-tweets.html>
- <http://bytegeist.firedoglake.com/2014/03/21/ibm-develops-algorithm-to-predict-where-you-live-based-on-your-last-200-tweets/>
- <http://www.gadailynews.com/news/regional/225574-tracking-you-in-140-characters-or-less-researchers-develop-formula-to-reveal-home-location-based-on-tweets.html>
- <http://www.nationalheadlines.co.uk/tracking-you-in-140-characters-or-less-researchers-develop-formula-to-reveal-home-location-based-on-tweets/238840/>
- <http://bytegeist.firedoglake.com/2014/03/21/ibm-develops-algorithm-to-predict-where-you-live-based-on-your-last-200-tweets/>
- <http://www.dailymail.co.uk/news/article-2586593/Tracking-140-characters-Researchers-develop-formula-reveal-home-location-based-tweets.html>
- <http://dailycaller.com/2014/03/21/researchers-develop-formula-that-reveals-home-location-based-on-tweets/>
- http://uk.newshub.org/how_your_tweets_can_reveal_where_you_live_527457.html
- <http://www.wired.co.uk/news/archive/2014-03/24/twitter-location-algorithm>
- <http://www.telegraph.co.uk/technology/twitter/10719064/How-your-tweets-can-reveal-where-you-live.html>
- <http://www.pc-100.com/how-your-tweets-can-reveal-where-you-live/>
- http://www.theregister.co.uk/2014/03/25/boffins_know_where_you_live_thanks_to_twitter/

4. My work on recommending Twitter users to retweet information got press attention.

- <http://www.technologyreview.com/view/527411/the-secret-science-of-retweets/>
- <http://www.wired.co.uk/news/archive/2014-05/21/retweeting-science>

STUDENTS MENTORED

Ifiyenya Okoye, University of Colorado, Boulder, Summer 2010 (Currently Lecturer/SWE CU-Boulder/Google)

Saleema Amershi, University of Washington, Fall 2010 (Currently Researcher at Microsoft Research, Redmond).

Kyumin Lee, Texas A&M University, Summer 2012 (Currently Assistant Professor, Utah State University)

Huiji Gao - Arizona State University, Summer 2013

Geli Fei - University of Illinois, Chicago, Summer 2014

REFERENCES

Available upon request.