

ENAMUL HOQUE PRINCE

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RESEARCH INTERESTS

My research focuses on combining information visualization and human-computer interaction with natural language processing to address the challenges of the information overload problem. In particular, I design and develop both text analysis and interactive visualization techniques to explore a large amount of data.

EDUCATION

- 09/ 2012- 05/2017 **University of British Columbia (UBC)**, Canada
PhD in Computer Science
Advisor: Giuseppe Carenini
Committee: Tamara Munzner, Raymond Ng, Sheelagh Carpendale (external)
Thesis: *Visual text analytics for online conversations*
- 01/ 2010- 01/2012 **Memorial University of Newfoundland (MUN)**, Canada
MSc in Computer Science
Advisors: Orland Hoeber and Minglun Gong
Thesis: *Concept-based query expansion and interactive visualization for Web image search*
- 03/2003- 08/2007 **Chittagong University of Engineering & Technology (CUET)**, Bangladesh
BSc in Computer Science & Engineering

RESEARCH EXPERIENCE

- 07/2017- present **Stanford University**, CA, USA
Postdoctoral scholar
Working with Prof. Maneesh Agrawala in the areas of information visualization and natural language processing
- 05/2016- 09/2016 **Tableau Software**, Palo Alto, CA, USA
Research Intern
Developed a natural language interface for interaction with visual analytics systems [J8]
- 01/2016- 05/2016 **Qatar Computing Research Institute (QCRI)**, Qatar
Research Associate
Developed and deployed an intelligent visual interface for supporting the exploration of community question answering forums [C9, D1].
Developed and evaluated a speech act classifier [C7] in collaboration.
- 09/2012- 01/2016 **University of British Columbia**, Canada
Research Assistant
Developed visual text analytics for online conversations [J6, J7, C5, C6, C9, W4]

- 09/2012- 04/2013, **University of British Columbia**, Canada
 09/2016-06/2017 *Research Assistant*
 Developed InfoVis systems and ran user studies in the Advanced Tools for User-Adaptive Visualization (ATUAV) project [J5, C4, W2, W3]
- 01/2010- 12/2011 **Memorial University of Newfoundland**, Canada
Research Assistant
 Developed tools and techniques for Web image search [J3, J4, C3, W1]

TEACHING EXPERIENCE

- Teaching Assistant, University of British Columbia*
 Marked assignments and exams, answered questions
- Fall 2016, Fall 2015 CPSC 422: Artificial Intelligence 2
 Summer 2015 CPSC 213: Introduction to Computer Systems
- Teaching Assistant, Memorial University of Newfoundland*
 Marked assignments and quizzes, answered questions
- 2010-11(Winter, Fall) CS 1700: Computer Basics
- Lecturer, Chittagong University of Engineering and Technology*
 Designed course outline, delivered lectures, developed assessments
- 2009 Object Oriented Programming
 2008 Computer Basics and Programming
 2008 Algorithm Design
 2008 Computer Graphics
 2008 Fuzzy Logic & Neural Network

REFEREED PUBLICATIONS

- JOURNAL PAPERS [J8] **E. Hoque**, V. Setlur, M. Tory, and I. Dykeman, Applying Pragmatics Principles for Interaction with Visual Analytics, *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VAST)*, 2017.
- [J7] **E. Hoque** and G. Carenini, Interactive topic modeling for exploring asynchronous online conversations: design and evaluation of ConVisIT, *ACM Transactions on Interactive Intelligent Systems (TIIS)*, Vol. 6, No. 1, pp. 7:1-7:24, 2016.
- [J6] **E. Hoque** and G. Carenini, ConVis: A visual text analytic system for exploring blog conversations, *Journal of Computer Graphics Forum (Proc. EuroVis)*, Vol. 33, No. 3, pp. 221-230, 2014, (AR: 22.9%).
- [J5] C. Conati, G. Carenini, **E. Hoque**, B. Steichen, D. Toker, Evaluating the impact of user characteristics and different layouts on an interactive visualization for decision making. *Journal of Computer Graphics Forum (Proc. EuroVis)*, Vol. 33, No. 3, pp. 371-380, 2014, (AR: 22.9%).

- [J4] E. Hoque**, O. Hoeber, M. Gong, CIDER: Concept-based image diversification, exploration, and retrieval, *Journal of Information Processing & Management (IPM)*, Vol. 49, No 5, pp. 1122-1138, 2013.
- [J3] E. Hoque**, O. Hoeber, M. Gong, Balancing the trade-offs between diversity and precision for Web image search using concept-based query expansion, *Journal of Emerging Technologies in Web Intelligence (JETWI)*, Vol: 4, No 1, pp. 26-34, 2012.
- [J2] E. Hoque**, O. Hoeber, G. Strong, M. Gong, Combining conceptual query expansion and visual search results exploration for Web image retrieval, *Journal of Ambient Intelligence and Humanized Computing (JAIHC)*, Vol. 4, No. 3 pp. 389-400, 2011.
- [J1] G. Hossain, E. Hoque**, M. I. Monir, M. A. Sharif, Automatic stemming and its impact in Bangla information retrieval, *Computer Science and Engineering Research Journal (CSERJ)*, Vol. 5, pp. 17-23, ISSN: 1990-4010, 2008.
- CONFERENCE PAPERS **[C9] E. Hoque** S. Joty, L. Màrquez, and G. Carenini, CQAVis: Visual Text Analytics for Community Question Answering, In *Proceedings of ACM Intelligent User Interfaces (IUI)*, pp. 161-172, 2017 (AR: 23%).
- [C8] S. Joty and E. Hoque**, Speech Act Modeling of Written Asynchronous Conversations with Task-Specific Embeddings and Conditional Structured Models, *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (ACL)*, pp. 1746–1756, 2016 (AR: 28%).
- [C7] E. Hoque** and G. Carenini, MultiConVis: A Visual Text Analytics System for Exploring a Collection of Online Conversations, pp. 96-107 In *Proceedings of ACM Intelligent User Interfaces (IUI)*, 2016 (AR: 25.9%).
- [C6] E Hoque**, S. Joty, L. Màrquez, A. Barrón-Cedeño, G. Martino, A. Moschitti, P. Nakov, S. Romeo, and G. Carenini, An Interactive System for Exploring Community Question Answering Forums, *International Conference on Computational Linguistics (COLING)*, 2016.
- [C5] E. Hoque** and G. Carenini, ConVisIT: Interactive Topic Modeling for Exploring Asynchronous Online Conversations, In *Proceedings of ACM Intelligent User Interfaces (IUI)*, pp. 169-180 2015, (AR: 22.9%).
- [C4] G. Carenini, C. Conati, E. Hoque**, B. Steichen, D. Toker, J. Enns, Highlighting interventions and user differences: informing adaptive information visualization support, In *Proceedings of The ACM Conference on Human Factors in Computing Systems (CHI)*, pp. 1835-1844, 2014 (AR: 23%).
- [C3] E. Hoque**, G. Strong, O. Hoeber, M. Gong, Conceptual query expansion and visual search results exploration for Web image retrieval, In *Proceedings of the Atlantic Web Intelligence Conference (AWIC)*, pp. 73-82, 2011.

[C2] G. Strong, **E. Hoque**, M. Gong, and O. Hoeber, Organizing and browsing image search results based on conceptual and visual similarities, In *Proceedings of the International Symposium on Visual Computing*, pp. 481-490, 2010.

[C1] **E. Hoque**, G. Hossain, A. A. Dewan, P. Debnath, An audible Bangla text entry method in mobile phones with intelligent keypad design, In *Proceedings of the International Conference on Computer and Information Technology (ICCIT)*, pp.279-284, 2009, (AR: 31%).

WORKSHOP PAPERS

[W5] **E. Hoque**, G. Carenini. Multimedia Summary Generation from Online Conversations: Current Approaches and Future Directions (**EMNLP Workshop on New Frontiers in Summarization**), in conjunction with the **EMNLP 2017**, Copenhagen, Denmark, 2017.

[W4] **E. Hoque**, G. Carenini and S. Joty. Interactive Exploration of Asynchronous Conversations: Applying a User-centered Approach to Design a Visual Text Analytic System. In *Proceedings of the Workshop on Interactive Language Learning, Visualization, and Interfaces (ILLVI 2014)*, in conjunction with the **ACL-2014**, Baltimore, USA.

[W3] G. Carenini, C. Conati, **E. Hoque**, B. Steichen, User Task Adaptation in Multimedia Presentations. *Proceedings of the Workshop on User-Adaptive Information Visualization (WUAV 2013)*, in conjunction with the 21st conference on User Modeling, Adaptation and Personalization (**UMAP 2013**), Rome, Italy, June 2013.

[W2] C. Conati, **E. Hoque**, D. Toker, B. Steichen, When to Adapt: Detecting User's Confusion During Visualization Processing, *Proceedings of the Workshop on User-Adaptive Information Visualization (WUAV 2013)*, in conjunction with the 21st conference on User Modeling, Adaptation and Personalization (**UMAP 2013**), Rome, Italy, June 2013.

[W1] **E. Hoque**, O. Hoeber, M. Gong, Evaluating the trade-offs between diversity and precision for Web image search using concept-based query expansion, *Proceedings of the International Workshop on Intelligent Web Interaction*, in conjunction with the IEEE/WIC/ACM **International Conference on Web Intelligence**, pp. 130-133, Lyon, France, 2011.

POSTERS

[P1] **E. Hoque**, O. Hoeber, M. Gong, concept-based interactive visualization approach to Web image search (refereed poster), In *Conference Compendium of the IEEE Information Visualization*, Providence, RI, USA, 2011.

STUDENT
CONSORTIUM

[S2] **E. Hoque**, Visual Text Analytics for Online Conversations: Design, Evaluation, and Applications, In *Companion Publication of the International Conference on Intelligent User Interfaces (IUI)*, pp. 122-125, 2016.

[S1] E. Hoque, Visual Text Analytics for Asynchronous Online Conversations, In *Companion Publication of the International Conference on Intelligent User Interfaces (IUI)*, pp. 105-108, 2015.

BOOK CHAPTERS

[B1] G. Murray, E. Hoque and G. Carenini, Opinion Summarization and Visualization, in *Sentiment Analysis in Social Networks*, Eds. Pozzi, Fersini, Messina, Liu. Elsevier, 2016

INVITED TALKS

- MultiConVis: A Visual Text Analytics System for Exploring a Collection of Online Conversations, *UBC Laboratory for Computational Intelligence (LCI) Forum Talk*, Vancouver, BC, January 2017.
- Visual text analytics for online conversations, *Department of Linguistics*, Simon Fraser University, Burnaby, BC, January 2017.
- An overview of text visualization techniques, *UBC School of Library, Archival and Information Studies (iSchool)*, Vancouver, BC, December 2016.
- ConVis: A visual text analytic system for exploring asynchronous online conversations, *The Pacific Northwest Regional NLP Workshop (NW-NLP)*, Microsoft Research, Redmond, April 2014.
- A visual text analytic system for asynchronous conversations, *UBC Laboratory for Computational Intelligence (LCI) Forum Talk*, Vancouver, BC, November 2013.
- Conceptual query expansion and visual search results exploration for Web image retrieval, *Department of Computer Science*, Memorial University of Newfoundland, St. John's, NL, November 2010.

STUDENTS MENTORED

- 2017 Dae Hyun, PhD student, Stanford University
- 2013 Rastko Djeric, Undergraduate directed study project, UBC
- 2013 Kaya Gajos, Undergraduate directed study project, UBC
- 2009 Kazi Shahadat Hossain, Undergraduate thesis, CUET
- 2009 Sumon Deb, Undergraduate thesis, CUET
- 2009 Priyanka Guha, Undergraduate thesis, CUET
- 2008 Pijush Debnath, Undergraduate thesis **[C1]**, CUET

AWARDS AND HONORS

- 2012-2016 Faculty of science graduate award, University of British Columbia
- 2015, 2016 Travel awards, IUI Conference

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| 2014 | Travel awards, ACL Conference |
| 2012 | Dean's doctoral award, Memorial University of Newfoundland (declined) |
| 2012 | Visa differential scholarship, University of Calgary (declined) |
| 2011 | Fellow of the school of graduate studies, Memorial University |
| 2010-2011 | School of graduate studies award, Memorial University of Newfoundland |
| 2007 | University merit Scholarship, Bangladesh |
| 1995-2000 | Primary and high school talent-pool scholarship, Government of Bangladesh |

PROFESSIONAL ACTIVITIES

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| Program committee | IUI (2015-2017) |
| Referee | InfoVis 2017, EuroVis 2017, IUI (2015 – 2017), ACM TIIS 2017, Journal of Computational Intelligence, Workshop on Human and Technology 2014 |
| Student volunteer | IUI 2016, ACL 2014, Canadian AI/GI/CRV 2011 |
| Representative | Graduate Student Admission Committee, University of British Columbia, 2016 |
| Vice-President | Bangladesh Student Association, Memorial University of Newfoundland, 2011 |
| Volunteer | CS open house program, Memorial University of Newfoundland, 2010 |
| Organizing secretary | CUET ICT fête, 2010 |
| Coach | Programming teams in national programming contests [2008-09] |

AFFILIATION

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| Member | ACM, IEEE, ACL |
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REFERENCES

Giuseppe Carenini

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