

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 data visualization, HCI, 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] **Enamul Hoque**, Vidya Setlur, Melanie Tory and Isaac Dykeman, [Applying Pragmatics Principles for Interaction with Visual Analytics](#), *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE VAST)*, 2017 (21.0% acceptance rate).
- [J7] **Enamul Hoque** and Giuseppe 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] **Enamul Hoque** and Giuseppe 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, (22.9% acceptance rate).
- [J5] Cristina Conati, Giuseppe Carenini, **Enamul Hoque**, Ben Steichen and Dereck 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, (22.9% acceptance rate).

[J4] Enamul Hoque, Orland Hoeber, Minglun Gong, [CIDER: Concept-based image diversification, exploration, and retrieval](#), *Journal of Information Processing & Management (IPM)*, Vol. 49, No 5, pp. 1122-1138, 2013.

[J3] Enamul Hoque, Orland Hoeber, Minglun 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] Enamul Hoque, Orland Hoeber, Grant Strong, Minglun 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] Gahangir Hossain, Enamul 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] Enamul Hoque Shafiq Joty, Lluís Màrquez, and Giuseppe Carenini, [CQAVis: Visual Text Analytics for Community Question Answering](#), In *Proceedings of ACM Intelligent User Interfaces (IUI)*, pp. 161-172, 2017(23% acceptance rate).

[C8] Shafiq Joty and Enamul 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 (28% acceptance rate).

[C7] Enamul Hoque and Giuseppe 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 (25.9% acceptance rate).

[C6] E Hoque, S. Joty, Lluís Màrquez, Alberto Barrón-Cedeño, Giovanni Martino, Alessandro Moschitti, Preslav Nakov, Salvatore Romeo, and Giuseppe Carenini, [An Interactive System for Exploring Community Question Answering Forums](#), *International Conference on Computational Linguistics (COLING)*, 2016.

[C5] Enamul Hoque and Giuseppe Carenini, [ConVisIT: Interactive Topic Modeling for Exploring Asynchronous Online Conversations](#), In *Proceedings of ACM Intelligent User Interfaces (IUI)*, pp. 169-180 2015, (22.9% acceptance rate).

[C4] Giuseppe Carenini, Cristina Conati, **Enamul Hoque**, Ben Steichen, Dereck Toker, James Enns¹, [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 (23% acceptance rate).

[C3] **Enamul Hoque**, Grant Strong, Orland Hoeber Minglun 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, **Enamul Hoque**, Minglun Gong and Orland 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] **Enamul Hoque**, Gahangir Hossain, Ali Akbar Dewan, Pijush 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, (31% acceptance rate).

WORKSHOP PAPERS

[W5] **Enamul Hoque**, Giuseppe 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] **Enamul Hoque**, Giuseppe Carenini and Shafiq 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] Giuseppe Carenini, Cristina Conati, **Enamul Hoque**, Ben 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] Cristina Conati, **Enamul Hoque**, Dereck Toker, Ben 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] **Enamul Hoque**, Orland Hoeber, Minglun Gong, [Evaluating the trade-offs between diversity and precision for Web image search using concept-based](#)

¹ Author order is alphabetical except for last author

[query expansion](#), *Proceedings of the 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] **Enamul Hoque**, Orland Hoeber, Minglun 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 [S2] **Enamul Hoque**, [Visual Text Analytics for Online Conversations: Design, CONSORTIUM Evaluation, and Applications](#), In *Companion Publication of the International Conference on Intelligent User Interfaces (IUI)*, pp. 122-125, 2016.
- [S1] **Enamul 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, **Enamul Hoque** and Giuseppe 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 Djerić, 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
- 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

- Program committee IUI (2015-2018), NAACL-HLT 2018
- Referee InfoVis 2017, EuroVis 2017, IUI (2015 – 2018), 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

- Member ACM, IEEE, ACL

LEGAL STATUS

Permeant resident of Canada

REFERENCES

Giuseppe Carenini

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