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.

ACADEMIC APPOINMENT

from 07/ 2018 -   **York University**, Toronto, ON, Canada

Assistant Professor, School of Information Technology

Graduate faculty member in the programs of Information Systems & Technology (MAIST) and Electrical Engineering and Computer Science (EECS)

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- 07/2018   **Stanford University**, CA, USA
Postdoctoral scholar
Conducting research in the areas of data visualization, HCI, and natural language processing. Supervisor: Maneesh Agrawala

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, 09/2016-06/2017	**University of British Columbia**, Canada *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   **[J9] Enamul Hoque** and Giuseppe Carenini, Interactive topic hierarchy revision for exploring a collection of online conversations, *Journal of Information Visualization*, 2018.

[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

[C10] Dae Hyun Kim, **Enamul Hoque**, Juho Kim, Maneesh Agrawala, Facilitating Document Reading by Linking Text and Tables, In *Proceedings of ACM User Interface Software and Technology Symposium (UIST), 2018 (21.3% acceptance rate)*.

[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 Enns[1], 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

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[1] *Author order is alphabetical except for last author*

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 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 CONSORTIUM **[S2] Enamul 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] 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] Gabriel Murray, **Enamul Hoque** and Giuseppe Carenini, Opinion summarization and visualization, in *Sentiment Analysis in Social Networks*, Eds. Pozzi, Fersini, Messina, Liu. Elsevier, pp. 171-187, 2016.

INVITED TALKS
- Visual text analytics for exploring and understanding large datasets, *FX Palo Alto Laboratory*, CA, USA, July 2018.
- Visual text analytics for exploring and understanding large datasets, *University of Victoria*, Canada, February 2018.
- Visual text analytics for exploring and understanding large datasets, School of Information Technology, *York University*, Canada, February 2018.
- Visual text analytics for exploring and understanding large datasets, Department of Informatics, *New Jersey Institute of Technology*, USA, February 2018.
- Visual text analytics for exploring and understanding large datasets, School of Computing and Informatics (CMIX), *University of Louisiana at Lafayette*, USA, January 2018.

- Visual text analytics for exploring and understanding large datasets, Wee Kim Wee School of Communication and Information, *Nanyang Technological University*, Singapore, January 2018.
- 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 SUPERVISED

2018 -	Nadia Ashfaq Siddiqui, master's student, York University
2018 -	Md Tahmid Rahman, master's student, York University
2017 -	Dae Hyun, PhD student, Stanford University
2013	Rastko Djeric, Undergraduate student, UBC
2013	Kaya Gajos, Undergraduate student, UBC
2009	Kazi Shahadat Hossain, Undergraduate student, CUET
2009	Sumon Deb, Undergraduate student, CUET
2009	Priyanka Guha, Undergraduate student, CUET
2008	Pijush Debnath, Undergraduate student [**C1**], CUET

RESEARCH GRANTS

2018 –	Startup grant, York University
2019 –	Minor research grant, Faculty of Liberal Arts & Professional Studies, York University

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)
2012	Best prototype award, Human-computer interaction Graduate course, UBC
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 (2015-2019), NAACL-HLT (2018-2019), IJCAI-ECAI 2018, Workshop on New Frontiers in Summarization 2018
Reviewer	InfoVis, EuroVis, CHI, UIST, IUI, ACM TIIS, Journal of Computational Intelligence, Journal of Informatics, International Workshop on Human Aspects in Adaptive and Personalized Interactive Environments (HAAPIE), Intelligence & Interaction in Knowledge Engineering (IIKE) 2018 & 2019, Designing Technologies to Support Human Problem Solving 2018, Workshop on Human and Technology 2014, Mitacs funding proposal, 2018
Member	Committee of Teaching & Research, School of Information Technology, York University (2018-)
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

REFERENCES

Available upon request.