

# ENAMUL HOQUE PRINCE

Gates Computer Science 3B, Room 375  
353 Serra Mall, Stanford University  
CA, USA, 94305-1248

+1 415 702 8198  
enamul@cs.stanford.edu  
<https://enamulh.github.io>

## 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*  
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, **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 [J9] **Enamul Hoque** and Giuseppe Carenini, Interactive topic hierarchy revision for exploring a collection of online conversations, *Journal of Information Visualization*, 2018 (conditionally accepted).
- [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 (THIS)*, 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 Enns<sup>1</sup>, [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

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<sup>1</sup> Author order is alphabetical except for last author

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 **[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 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
- 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 (2015-2018), NAACL-HLT 2018, IJCAI-ECAI 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**

- Permanent resident of Canada

## REFERENCES

### **Giuseppe Carenini**

Associate Professor, Computer Science, University of British Columbia  
carenini@cs.ubc.ca, ☎ + 1 (604) 822-5109

### **Tamara Munzner**

Professor, Computer Science, University of British Columbia  
tmm@cs.ubc.ca, ☎ + 1 (604) 827-5200

### **Maneesh Agrawala**

Professor, Computer Science, Stanford University  
maneesh@cs.stanford.edu, ☎ +1 (650) 723-2642

### **Vidya Setlur**

Staff research scientist, Tableau Software, Palo Alto, CA, USA  
vsetlur@tableau.com, ☎ +1(650) 382-6203

### **Lluís Màrquez**

Principal Scientist, Qatar Computing Research Institute  
lmarquez@qf.org.qa, ☎ +974 33225787

### **Minglun Gong**

Professor, Computer Science, Memorial University of Newfoundland  
gong@cs.mun.ca, ☎ +1 (709) 864-3589