



Matthew Brehmer

p. 1 / 2

Data Visualization Researcher

mattbrehmer.github.io

PhD, MSc, BComp

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Seattle, Washington

@mattbrehmer

Research Interests

Data visualization / information visualization, human-computer interaction, cognitive science, visual analytics, task analysis, exploratory data analysis, design and evaluation methodologies.

Education

University of British Columbia

Vancouver, Canada

Doctor of Philosophy (Computer Science)

2011 – 2016

Dissertation: *Why Visualization? Task Abstraction for Analysis and Design*

Supervisory committee: Tamara Munzner (chair), Joanna McGrenere, & Ron Rensink

2009 – 2011

Master of Science (Computer Science, Sub-Specialization in Human Computer Interaction)

2009 – 2011

Thesis: *Usability and the Effects of Interruption in C-TOC: Self-Administered Cognitive Testing on a Computer*.

Supervised by Joanna McGrenere & Claudia Jacova

Publications

* papers accepted

Queen's University

Kingston, Canada

Bachelor of Computing (Honours) with Distinction

2004 – 2009

Specialization in Cognitive Science with Professional Internship

Timelines Revisited: A Design Space and Considerations for Expressive Storytelling.

2017

Brehmer, Lee, Bach, Henry Riche, & Munzner. To appear in *IEEE Trans. Visualization & Computer Graphics* (TVCG).

Matches, Mismatches, and Methods: Multiple-View Workflows for Energy Portfolio Analysis.

2016

Brehmer, Ng, Tate, & Munzner. In *IEEE Trans. Visualization & Computer Graphics / Proc. InfoVis 2015*, 22(1). p. 449-458.

39 / 178*
(22%)

TimeLineCurator: Interactive Authoring of Visual Timelines from Unstructured Text.

2016

Fulda, **Brehmer**, & Munzner. *IEEE Trans. Visualization & Computer Graphics / Proc. Visual Analytics Science & Technology (VAST 2015)*, 22(1). p.300-309.

31 / 149*
(21%)

Overview: The Design, Adoption, and Analysis of a Visual Document Mining Tool For Investigative Journalists.

2014

Brehmer, Ingram, Stray, & Munzner. *IEEE Trans. Visualization & Computer Graphics / Proc. InfoVis*, 20(12). p. 2271-2280.

45 / 196*
(23%)

Visualizing Dimensionally-Reduced Data: Interviews with Analysts and a Characterization of Task Sequences.

2014

Brehmer, Sedlmair, Ingram, & Munzner. *Proc. ACM Workshop on BEyond time and errors: novel evalUation methods for Information Visualization (BELIV)*. p.1-8.

23 / 30*
(77%)

Pre-Design Empiricism for Information Visualization: Scenarios, Methods, and Challenges.

2014

Brehmer, Carpendale, Lee, & Tory. *Proc. ACM Workshop on BEyond time and errors: novel evalUation methods for Information Visualization (BELIV)*. p.147-151.

23 / 30*
(77%)

C-TOC (Cognitive Testing on Computer): Investigating the Usability and Validity of a Novel Self-administered Cognitive Assessment Tool in Aging and Early Dementia. Jacova, McGrenere, Lee, Wang, Le Huray, Corenblith,

2014

Brehmer, Tang, Hayden, Beattie, & Hsiung. *Alzheimer and Related Disorders*.

A Multi-Level Typology of Abstract Visualization Tasks.

2013

Brehmer & Munzner. *IEEE Trans. Visualization & Computer Graphics / Proc. InfoVis*, 19(12). p. 2376–2385.

38 / 152*
(25%)

Investigating Interruptions in the Context of Computerised Cognitive Testing for Older Adults

2012

Brehmer, McGrenere, Tang, & Jacova. *Proc. ACM Conf. Human Factors in Computing Systems (CHI)*, p.2649-2658.

370 / 1577*
(23%)



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p. 2 / 2

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Publications (cont.)

The Haptic Crayola Effect: Exploring the Role of Naming in Learning Haptic Stimuli.
Hwang, Maclean, **Brehmer**, Hendy, Sofirakopoulos, & Choi. Proc. IEEE World Haptics Conference (WHC), p. 385-390.

2011

Activate Your GAIM: A Toolkit for Input in Active Games.
Brehmer, Graham, & Stach. Proc. ACM Academic Conference on the Future of Game Design and Technology (Future Play), p. 151-158.

2010

Classifying Input for Active Games.
Stach, Graham, Brehmer, & Hollatz. Proc. ACM Advances in Comp. Entertainment (ACE), p. 379-382.

2009

Doctoral Colloquium

Visualization Task Abstraction from Multiple Perspectives.
Brehmer. Presentation and Poster at the IEEE VIS Doctoral Colloquium.

2014

18 / 30*

Research Community Service

External Reviewer
IEEE VIS (InfoVis, VAST), IEEE Transactions on Visualization & Computer Graphics (TVCG)
The Eurographics Conference on Visualization (EuroVis), Sage Information Visualization
ACM Transactions on Human-Computer Interaction (TOCHI)
ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)

2013 – 2016

Student Volunteer
ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)

2011, 2013, 2015, 2016

University Service

University of British Columbia Department of Computer Science
Graduate Admissions and Recruitment Committee

Vancouver, Canada
2013 – 2015

University of British Columbia Computer Science Graduate Students' Association
Vice President (Social Events)
Graduate Student Orientation Committee
Un-Distinguished Lecture Series Organizer

Vancouver, Canada
2010 – 2011
2012
2010 – 2011, 2012 – 2013

Industry Experience

Microsoft Research
Research Intern; mentor: Bongshin Lee (neXus Group)

Redmond, USA
Summer 2015

EnerNOC (formerly Pulse Energy)
Mitacs-Accelerate Graduate Research Intern

Vancouver, Canada
2013 – 2014

EMC
User Experience Design Intern

Toronto, Canada
2007 – 2008

Killam Properties, Inc.
Web Developer, IT Support Staff

Halifax, Canada
2006

Teaching Experience

University of British Columbia Department of Computer Science
Guest Lecturer: *Information Visualization* (CPSC 547)
Guest Lecturer: *Introduction to Human Computer Interaction Methods* (CPSC 344)
Teaching Assistant: *Advanced Human Computer Interaction Methods* (CPSC 444)
Teaching Assistant: *Introduction to Human Computer Interaction Methods* (CPSC 344)

Vancouver, Canada
2014, 2015
2012 – 2013
2010
2009

Honours & Awards

University of British Columbia Department of Computer Science Student Service Award
University of British Columbia Department of Computer Science Volunteering Award
Mitacs-Accelerate Graduate Research Internship Program Award
Natural Sciences & Engineering Research Council of Canada (NSERC) Postgraduate Scholarship
University of British Columbia Four Year Doctoral Fellowship
University of British Columbia Department of Computer Science Merit Scholarship
Queen's University Dean's Entrance Scholarship in Computing

2016
2015
2013 – 2014
2011 – 2014
2011 – 2015
2009 – 2011
2004 – 2005