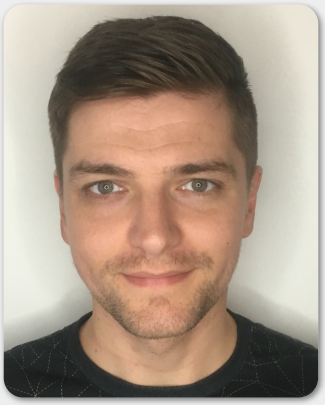
MATTHEW BREHMER

VISUALIZATION RESEARCH AND DEVELOPMENT



CONTACT

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EDUCATION

PhD, Computer Science
UNIVERSITY OF BRITISH COLUMBIA
2011 - 2016

MSc, Human-Computer Interaction
UNIVERSITY OF BRITISH COLUMBIA
2009 - 2011

BComp, Cognitive Science
QUEEN'S UNIVERSITY
2004 - 2009

EMPLOYMENT HISTORY

Postdoctoral Researcher
MICROSOFT RESEARCH
2016 - 2019

Research Assistant
UNIVERSITY OF BRITISH COLUMBIA
2009 - 2016

Research Intern
MICROSOFT RESEARCH
2015

Research Intern
PULSE ENERGY
2013 - 2014

Research Assistant
QUEEN'S UNIVERSITY
2009

User Experience Design / Front-End Development Intern
EMC DOCUMENTUM
2007 - 2008

BIO

Matthew is an expert in information visualizaton, a practice that brings together data analysis, software development, user experience research, and design. He has spoken about his work at venues such as IEEE VIS, ACM CHI, and OpenVisConf, and he has published several papers about his work in IEEE TVCG, the top journal for visualization research. He has been a program committee member for a number of events including IEEE InfoVis, Information+, and Computation + Journalism. In 2018, he was a co-organizer of the VisInPractice event at IEEE VIS, the PacificVis Visual Data Storytelling Contest, and the MobileVis Workshop at ACM CHI.

APPLICATION AREAS

Matthew has applied his expertise in visualization and human-computer interaction in the domains of energy management, personal health, and data journalism.

CURRENT ROLE

As a postdoctoral researcher at Microsoft Research, Matthew focuses on expressive information design tools for storytelling and journalism, as well as visualization for mobile devices. His role requires alternating between prototype design, application development, conducting human factors experiments, analyzing data, collaborating with researchers from academia, writing research papers, and consulting with various teams at Microsoft.

TECHNICAL SKILLS

Matthew predominantly develops for the web (JavaScript, HTML, CSS) and uses D3.js for visualization, having previously worked with ActionScript and Processing / P5.js. He performs data analysis in R and develops data analysis tools with Shiny. He also works with business intelligence software (Power BI, Tableau), diagramming tools (OmniGraffle, Visio), and various presentation and video production tools.

SELECTED PROJECTS

Visualizing Ranges on Mobile Devices
A node.js webapp used in a crowdsourced experiment.
aka.ms/ranges
2018

Timeline Storyteller
An interactive authoring tool for Power BI and the web.
timelinestoryteller.com
2015 - 2017

Portfolio Sandbox
A R/Shiny dashboard for analyzing building energy usage.
mattbrehmer.shinyapps.io/PortfolioSandbox
2014

SoundConsensus
A visualization of (dis)agreement in music reviews.
mattbrehmer.github.io/SoundConsensus
2014

SELECTED TALKS / VIDEOS

Additional talks and links to slides are available at mattbrehmer.github.io/#talks.

The Timeline Storyteller Custom Visual for Power BI — 2017 / 09 / 15
Microsoft Power BI YouTube Channel
youtu.be/bwiMfwBVsSQ

What Story Does Your Timeline Tell? — 2017 / 04 / 24
OpenVisConf 2017
youtu.be/gQKUl_1ryo4

Why Visualization? Task Abstraction for Analysis and Design — 2016 / 02 / 01
Microsoft Research
youtu.be/Gg9UGHu4Qao

Matches, Mismatches, and Methods: Multiple-View Workflows for Energy Portfolio Analysis — 2015 / 10 / 28
IEEE VIS 2015, InfoVis Track
vimeo.com/236169723

SELECTED PUBLICATIONS

Additional publications and links to PDFs are available at mattbrehmer.github.io/#pubs.

Visualizing Ranges over Time on Mobile Phones: A Task-Based Crowdsourced Evaluation — 2018
Matthew Brehmer, Bongshin Lee, Petra Isenberg, Eun Kyoung Choe
IEEE Transactions on Visualization and Computer Graphics (Volume 25, Issue 1)

Timelines Revisited: A Design Space and Considerations for Expressive Storytelling — 2017
Matthew Brehmer, Bongshin Lee, Benjamin Bach, Nathalie Riche, Tamara Munzner
IEEE Transactions on Visualization and Computer Graphics (Volume 23, Issue 9)

Overview: The Design, Adoption, and Analysis of a Visual Document Mining Tool For Investigative Journalists — 2014
Matthew Brehmer, Stephen Ingram, Jonathan Stray, Tamara Munzner.
IEEE Transactions on Visualization and Computer Graphics (Volume 20, Issue 12)

A Multi-Level Typology of Abstract Visualization Tasks — 2013
Matthew Brehmer and Tamara Munzner
IEEE Transactions on Visualization and Computer Graphics (Volume 19, Issue 12)

Investigating Interruptions in the Context of Computerised Cognitive Testing for Older Adults — 2012
Matthew Brehmer, Joanna McGrenere, Charlotte Tang, Claudia Jacova
In *Proceedings of the ACM CHI Conference*.

REFERENCES

References are available upon request.