

Dr. Wesley Willett

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RESEARCH INTERESTS

Information Visualization, Social Computing, Human-Computer Interaction, Personal Informatics, Citizen Sensing, Cartography, New Media

EDUCATION

- 2006-2012 University of California, Berkeley
Ph.D. in Computer Science
Thesis — *Tools and Strategies for Social Data Analysis*
Committee — Maneesh Agrawala (Advisor), Joseph M. Hellerstein, Greg Niemeyer, Björn Hartmann
3.96 Cumulative GPA
- 2001-2006 University of Colorado at Boulder
BS in Computer Science (Summa Cum Laude) with a Technology Arts and Media (TAM) Certificate
Computer Science Department's Outstanding 2006 Graduate
2004/2005 academic year spent abroad at Lancaster University, Lancashire, UK
Robert Byrd Scholarship, Thomas Eaton Scholarship, Lloyd Fosdick Scholarship, National Merit Scholarship Finalist
Norlin Scholars Honor Program
3.962 Cumulative GPA - Dean's List

EMPLOYMENT

- 7/2015-Present Assistant Professor (University of Calgary CPSC)
Head of the Data Experience Lab.
- 12/2012-12/2014 Post-Doctoral Researcher (INRIA-Saclay, France)
Worked with Petra Isenberg and Jean-Daniel Fekete to explore interactive visualization and note-taking tools.
- 2006-2012 Graduate Researcher (University of California EECS)
Worked with Prof. Maneesh Agrawala and Jeffrey Heer to explore collaboration around information visualizations.
Designed, built, and evaluated CommentSpace, a platform for collaborative data analysis on the web.
Built systems to explore crowdsourced approaches to social data analysis.
- 06/2012-09/2012 Research Intern (Google Research)
Worked with Ed Chi to explore visualization techniques for social media data.
- 06/2009-12/2010 Visiting Scholar (Intel Labs Berkeley)
Worked with the Common Sense team to develop tools for community analysis of environmental quality data.
Conducted and coordinated field evaluations, deployments, and interviews with community members.
- Summer 2007 Research Intern (Adobe Systems Creative Technologies Lab — Seattle, WA)
Worked with Prof. David Salesin to explore systems for delivering dynamic visual presentations of data.
- 5/2004-5/2006 Designer (Histories of Internet Art: Fictions & Factions — University of Colorado)
Worked with Prof. Mark Amerika to compile, preserve, and curate an expanding collection of net art.
- 2003-2006 Graphic/Multimedia Artist (Fiske Planetarium — University of Colorado)
Co-Producer of Space Storm, an educational planetarium show developed for national distribution.
Designed science exhibits, promotional posters, pamphlets, newspaper advertisements, and other print material.
Assisted in the design and maintenance of the planetarium website.
- Summer 2004 Research Assistant (University of Colorado)
Worked with Prof. Shivakant Mishra in developing Mykil, a key distribution system for secure Internet multicast.
- 2002-2003 Computing Assistant/Intern (Agro Engineering Inc. — Alamosa, CO)
Conducted and oversaw digital aerial photography flights.
Designed web services to provide online delivery of aerial photographs and weather data to hundreds of clients.
Used ArcGIS and Surfer to create maps and manipulate infrared aerial and satellite imagery.
- 1998-2001 Potato Rouging Crew Supervisor/Farm Technician (Mtn. Valley Produce LLC.)
Supervised 20-person disease rouging crew for certified potato seed.

PUBLICATIONS

- Dissertation Tools & Strategies for Social Data Analysis
Wesley Willett, Doctoral Dissertation, University of California, Berkeley, December 2012.
- Peer-Reviewed Publications
(In Reverse Chronological Order)
- Supporting Historical Research Through User-Centered Visual Analytics
Nadia Boukhelifa, Emmanouil Giannidakis, Evanthia Dimara, Wesley Willett, and Jean-Daniel Fekete. In *EuroVis Workshop on Visual Analytics (EuroVA)*, May, 2015. [\[DOI\]](#)
- Understanding Digital Note-Taking Practice for Visualization
Wesley Willett, Pascal Goffin, and Petra Isenberg. In *IEEE Computer Graphics and Applications* 35(4): 38–51, IEEE, July, 2015. [\[DOI\]](#)
- Lightweight Relief Shearing for Enhanced Terrain Perception on Interactive Maps
Wesley Willett, Bernhard Jenny, Tobias Isenberg, and Pierre Dragicevic. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '15)*, ACM, 2015. [23% Acceptance Rate] Best Paper Award. [\[DOI\]](#)
- Patterns of Physical Design Remixing in Online Maker Communities
Lora Oehlberg, Wesley Willett, and Wendy E. Mackay. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '15)*, ACM, 2015. [23% Acceptance Rate] [\[DOI\]](#)
- Exploring the Placement and Design of Word-Scale Visualizations
Pascal Goffin, Wesley Willett, Jean-Daniel Fekete, and Petra Isenberg. In *IEEE Transactions on Visualization and Computer Graphics* 20(12): 2291–2300, IEEE, Dec, 2014. [23% Acceptance Rate] [\[DOI\]](#)
- Eliciting Multi-touch Selection Gestures for Interactive Data Graphics
Wesley Willett, Qi Lan, and Petra Isenberg. In *Short-Paper Proceedings of the European Conference on Visualization (EuroVis)*, Eurographics, 2014. [\[DOI\]](#)
- Hybrid-Image Visualization for Large Viewing Environments
Petra Isenberg, Pierre Dragicevic, Wesley Willett, Anastasia Bezerianos, and Jean-Daniel Fekete. In *IEEE Transactions on Visualization and Computer Graphics* 19(12): 2346–2355, 2013. [25% Acceptance Rate] [\[DOI\]](#)
- Identifying Redundancy and Exposing Provenance in Crowdsourced Data Analysis
Wesley Willett, Shiry Ginosar, Avital Steinitz, Björn Hartmann, and Maneesh Agrawala. In *IEEE Transactions on Visualization and Computer Graphics* 19(12): 2198–2206, IEEE, December, 2013. [25% Acceptance Rate] [\[DOI\]](#)
- Strategies for Crowdsourcing Social Data Analysis
Wesley Willett, Jeffrey Heer, and Maneesh Agrawala. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '12)*, ACM, 2012. [23% Acceptance Rate] [\[DOI\]](#)
- CommentSpace: Structured Support for Collaborative Visual Analysis
Wesley Willett, Jeffrey Heer, Joseph Hellerstein, and Maneesh Agrawala. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '11)*, ACM, 2011. [26% Acceptance Rate] Best Paper Honorable Mention. [\[DOI\]](#)
- Common Sense Community: Scaffolding Mobile Sensing and Analysis for Novice Users
Wesley Willett, Paul Aoki, Neil Kumar, Sushmita Subramanian, and Allison Woodruff. In *Pervasive Computing (Lecture Notes in Computer Science)*, 6030: 301–318, Springer Berlin Heidelberg, 2010. [16% Acceptance Rate] Best Paper Award. [\[DOI\]](#)
- Generalized Selection via Interactive Query Relaxation
Jeffrey Heer, Maneesh Agrawala, and Wesley Willett. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '08)*, ACM, 2008. [22% Acceptance Rate] [\[DOI\]](#)
- Scented Widgets: Improving Navigation Cues with Embedded Visualizations
Wesley Willett, Jeffrey Heer, and Maneesh Agrawala. In *IEEE Transactions on Visualization and Computer Graphics* 13(6): 1129–1136, IEEE, Nov, 2007. [23% Acceptance Rate] [\[DOI\]](#)
- Batch Rekeying in Mykil Key Management System.
Wesley Willett, Jyh-How Huang, and Shivakant Mishra. In *IASTED Parallel and Distributed Computing and Systems (PDCS)*, 2005.
- Workshop Papers
- Perceptual Affordances of Wall-Sized Displays for Visualization Applications: Color
Anastasia Bezerianos, Petra Isenberg, Olivier Chapuis, and Wesley Willett. In *Proceedings of the CHI Workshop on Interactive, Ultra-High-Resolution Displays (PowerWall)*, April, 2013. [\[DOI\]](#)
- Visualizing Gulfs and Streaks - Peripheral Support for Goal-Setting & Habit-Forming in Personal Informatics
Wesley Willett, and Lora Oehlberg. In *Proceedings of the CHI Workshop on Personal Informatics in the Wild*, April, 2013. [\[DOI\]](#)
- Design Considerations for Knowledge Generation in Citizen Science Tasks
Wesley Willett, Allison Woodruff, and Paul Aoki. In *Proceedings of the CHI Workshop on Data Collection by the People, for the People*, May, 2011.
- Demos
- Common Sense: Participatory Urban Sensing Using a Network of Handheld Air Quality Monitors
Prabal Dutta, Paul M. Aoki, Neil Kumar, Alan Mainwaring, Chris Myers, Wesley Willett, and Allison Woodruff. In *Proceedings of the 7th ACM Conference on Embedded Networked Sensor Systems (SenSys '09)*, ACM, 2009. [\[DOI\]](#)
- Posters
- Exploring the Effect of Word-Scale Visualizations on Reading Behavior
Pascal Goffin, Wesley Willett, Anastasia Bezerianos, and Petra Isenberg. In *Extended Abstracts of the Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI EA '15)*, ACM, 2015. [\[DOI\]](#)
- Illustrative Data Graphics in 18th-19th Century Style: A Case Study
Benjamin Bach, Pierre Dragicevic, Samuel Huron, Petra Isenberg, Yvonne Jansen, Charles Perin, André Spritzer, Romain Vuillemot, Wesley Willett, and Tobias Isenberg. In *IEEE Conference on Visualization - IEEE VIS 2013*, October, 2013. [\[DOI\]](#)

Illustrative Data Graphic Style Elements

Pierre Dragicevic, Wesley Willett, and Tobias Isenberg. In *Posters at the Joint ACM/EG Symposium on Computational Aesthetics, Sketch-Based Interfaces and Modeling, and Non-Photorealistic Animation and Rendering (Expressive 2013, July 19--21, Anaheim, CA, USA)*, July, 2013. [\[DOI\]](#)

Visual Showcase: An Illustrative Data Graphic in an 18th-19th Century Style

Pierre Dragicevic, Benjamin Bach, Nicole Dufournaud, Samuel Huron, Petra Isenberg, Yvonne Jansen, Charles Perin, André Spritzer, Romain Vuillemot, Wesley Willett, and Tobias Isenberg. In *Visual Showcase at the Joint ACM/EG Symposium on Computational Aesthetics, Sketch-Based Interfaces and Modeling, and Non-Photorealistic Animation and Rendering (Expressive 2013, July 19--20, Anaheim, CA, USA)*, July, 2013. [\[DOI\]](#)

SUPERVISION & MENTORING

- 2015-Present Masters Supervisor — Kelli Nunwieler, Masters Student at University of Calgary
- 2015-Present Masters Supervisor — Sathaporn "Hubert" Hu, Masters Student at University of Calgary
- Summer 2014 Masters Thesis Co-Advisor — Manfred Micaux, Masters Student at Université Paris Sud. Thesis (2014) "Exploring Motivation and Performance in Language Learning via Active Consumption of Web Content"
- 2013-Present Mentor — Pascal Goffin, Ph.D. Student at Université Paris Sud. Thesis (Expected 2016) "Design, Placement, and Interaction for Word-Scale Visualization".
- Summer 2013 Mentor — Qi Lan, Masters Student at Université Paris Sud.
- 2010-2012 Mentor — Shiry Ginosar, Ph.D. Student at University of California, Berkeley.
- 2009-2011 Mentor — Nicholas Kong, Ph.D. Student at University of California, Berkeley.

TEACHING

- Fall 2014 Visual Analytics (École Centrale Paris)
Served as one of the leaders of the teaching team. Developed and presented new lectures and tutorials on data collection, data cleaning, and data analysis at scale.
- Fall 2013 Interactive Information Visualization (INFO521C02, Université Paris-Sud)
Guest lectures on color and perception.
- Spring 2011 Visualization (CS294-10, UC Berkeley)
Guest lectures on collaborative visual analysis.
- Spring 2008 User Interface Design and Analysis (CS160, UC Berkeley)
Graduate Student Instructor for Prof. Maneesh Agrawala. Taught principles of user interface design and human-computer interaction. Led weekly one-hour discussion sections, prepared and graded assignments, and presented several lectures.

WORKSHOP & SEMINAR ORGANIZING

- 2015 Personal Visualization: Exploring Data in Everyday Life at IEEE VIS

HONORS & AWARDS

- 2015 ACM CHI Conference — Best Paper Award
- 2011 ACM CHI Conference — Best Paper Honorable Mention
- 2010 8th Annual Conference on Pervasive Computing — Best Paper Award
- 2006 University of Colorado — Outstanding Computer Science Graduate

FUNDING

- 2010 NSF Grant CCF-0963922 "Collaborative Research: Data Intensive Computing: Scalable, Social Data Analysis". As a graduate student researcher, assisted PI (Maneesh Agrawala) with preparation of grant materials.
- 2007 NSF Graduate Fellowship — Honorable Mention
- 2006 UC Berkeley EECS Department Fellowship

PRESENTATIONS & INVITED TALKS

- 21 Mar 2014 Data+Experience - Tools and Strategies for Social Data Analysis
Oregon State University EECS, Corvallis, OR.
- 13 Feb 2014 Data+Experience - Tools and Strategies for Social Data Analysis
University of Washington iSchool, Seattle, WA.
- 10 Feb 2014 Data+Experience - Tools and Strategies for Social Data Analysis
University of Calgary Computer Science. Calgary, AB.

27 Jan 2014	Data+Experience - Tools and Strategies for Social Data Analysis SIGCHI Paris Chapter. Paris, France.
7 Sep 2012	Tools and Strategies for Social Data Analysis UC Berkeley EECS, Dissertation Talk. Berkeley, CA.
8 Feb 2012	Strategies for Crowdsourcing Social Data Analysis IBM Almaden Research Center. Almaden, CA.
23 Oct 2011	Supporting Ad Hoc Visual Storytelling in Social Media Telling Stories with Data Workshop, VisWeek 2011. Providence, RI.
5 Oct 2011	Strategies for Crowdsourcing Social Data Analysis UC Berkeley, Visual Computing Lab Retreat. Bodega Bay, CA.
20 May 2011	Social Data Analysis in CommentSpace Tableau Software. Seattle, WA.
26 Oct 2010	Storytelling in CommentSpace Telling Stories with Data Workshop, VisWeek 2010. Salt Lake City, UT.
14 Jul 2010	CommentSpace and Common Sense IBM Almaden Research Center. Almaden, CA.

PROFESSIONAL ACTIVITIES

Program Committee	ACM Human Factors in Computing Systems (CHI) 2016 IEEE InfoVis 2015 Graphics Interface 2015 iConference 2015 ACM Human Factors in Computing Systems (CHI) — Works-in-Progress Committee 2012-2014
Reviewer	ACM Computer-Supported Collaborative Work (CSCW) 2014-2015 ACM Engineering Interactive Computing System (EICS) 2011 ACM Human Factors in Computing Systems (CHI) 2010-2015 ACM Intelligent User Interfaces (IUI) 2012 ACM Interactive Tabletops & Surfaces (ITS) 2014 ACM Symposium on Spatial User Interaction (SUI) 2015 ACM User Interface Software and Technology (UIST) 2009, 2012-2013, 2015 Eurographics Conference on Visualization (EuroVis) 2014 IEEE Pervasive Computing 2014 IEEE Transactions of Visualization & Computer Graphics (TVCG) 2011-2012, 2014-2015 IEEE Visual Analytics Science and Technology (VAST) 2009 Intl. Journal of Human-Computer Studies (IJHCS) 2011
Student Volunteer	ACM User Interface Software and Technology (UIST) 2011 ACM Creativity and Cognition 2009
Committees	Graduate Admissions, Computer Science Division, UC Berkeley 2009
Member	Association for Computing Machinery (ACM) Institute of Electrical and Electronics Engineers (IEEE)