

## Biographical Sketch: Jeffrey Heer

Assistant Professor, Computer Science Department

Stanford University

URL: <http://hci.stanford.edu/jheer>

### PROFESSIONAL PREPARATION:

Jun 2001      **University of California, Berkeley**  
Bachelor of Science in Electrical Engineering and Computer Science

Dec 2004      **University of California, Berkeley**  
Master of Science in Computer Science

Dec 2008      **University of California, Berkeley**  
Doctor of Philosophy in Computer Science  
Dissertation: *Supporting Asynchronous Collaboration for Interactive Visualization*

### APPOINTMENTS:

2009–Present      **Stanford University**  
Assistant Professor, Computer Science Department

2008–Present      **OurGroup.org**  
Technical Advisor

2010–Present      **DNAnexus**  
Technical Advisor

### FIVE MOST RELEVANT PUBLICATIONS:

1. “Declarative Language Design for Interactive Visualization” by Jeffrey Heer and Michael Bostock. *To appear in IEEE Transactions on Visualization and Computer Graphics (Proc. InfoVis’10), 2010.*
2. “Protovis: A Graphical Toolkit for Visualization” by Michael Bostock and Jeffrey Heer. *IEEE Transactions on Visualization and Computer Graphics (Proc. InfoVis’09), 15(6), pp. 1121-1128, Nov/Dec 2009.*
3. “Voyagers and Voyeurs: Supporting Asynchronous Collaborative Visualization” by Jeffrey Heer, Fernanda Viégas, and Martin Wattenberg. *Communications of the ACM, 52(1), pp. 87-97, Jan 2009.*
4. “Multi-Scale Banking to 45°” by Jeffrey Heer and Maneesh Agrawala. *IEEE Transactions on Visualization and Computer Graphics (Proc. InfoVis’06), 12(5), pp. 701-708, Sep/Oct 2006.*
5. “Generalized Selection via Interactive Query Relaxation” by Jeffrey Heer, Maneesh Agrawala and Wesley Willett. *Proc. ACM Human Factors in Computing Systems (CHI), pp. 959-968, Apr 2008.*

### FIVE OTHER PUBLICATIONS:

1. “Crowdsourcing Graphical Perception: Using Mechanical Turk to Assess Visualization Design” by Jeffrey Heer and Michael Bostock. *Proc. ACM Human Factors in Computing Systems (CHI), pp. 203-212, Apr 2010. (CHI 2010 Best Paper Nominee)*
2. “Sizing the Horizon: The Effects of Chart Size and Layering on the Graphical Perception of Time Series Visualizations” by Jeffrey Heer, Nicholas Kong, and Maneesh Agrawala. *Proc. ACM Human Factors in Computing Systems (CHI), pp. 1303-1312, Apr 2009. (CHI 2009 Best Paper Award)*
3. “Scented Widgets: Improving Navigation Cues with Embedded Visualizations” by Wesley Willett, Jeffrey Heer and Maneesh Agrawala. *IEEE Transactions on Visualization and Computer Graphics (Proc. InfoVis’07), 13(6), pp. 1129-1136, Nov/Dec 2007.*
4. “Software Design Patterns for Information Visualization” by Jeffrey Heer and Maneesh Agrawala. *IEEE Transactions on Visualization and Computer Graphics (Proc. InfoVis’06), 12(5), pp. 853-860, 2006.*
5. “Prefuse: A Toolkit for Interactive Information Visualization” by Jeffrey Heer, Stuart K. Card, and James A. Landay. *Proc. ACM Human Factors in Computing Systems (CHI), pp. 421-430, Apr 2005.*

#### **EDUCATIONAL ACTIVITIES:**

1. Developed and taught classes on Visualization at Stanford (Win 09, Fall 09) and UC Berkeley (Fall 05, Spr 06). Developed course on Social Software (Win 10). Re-developed and taught class on Research Topics in Human-Computer Interaction (Spr 09). Instructor for Social Science Methods course (Sum 09, 10)
2. Co-organized half-day course on Visualization and Social Data Analysis at VLDB 2009.
3. Co-organized half-day course on Computation and Journalism at SIGGRAPH 2008.

#### **SYNERGISTIC ACTIVITIES:**

1. Led the development of the open source *prefuse*, *flare*, and *protovis* visualization toolkits (see [prefuse.org](http://prefuse.org), [flare.prefuse.org](http://flare.prefuse.org), and [protovis.org](http://protovis.org)). The tools have collectively been downloaded over 100,000 times, referenced in over 1,000 research publications, and are actively used by the visualization research community and numerous corporations.
2. Co-organized full-day workshop on Social Data Analysis at CHI 2008.
3. Invited keynote speaker at Conference on Innovative Data Systems Research (CIDR), to speak about recent trends in visualization and collaborative data analysis – January 2009.
4. Invited speaker at ACM SIGMOD conference to discuss developments in data visualization and human-computer interaction with data – June 2009.

#### **COLLABORATORS:**

Maneesh Agrawala (Berkeley), Chris Beckmann (Google), danah boyd (Microsoft), Stuart Card (PARC), Sheelagh Carpendale (U. Calgary), Scott Carter (FXPAL), Ed Chi (PARC), John Christensen (Stanford), Nicole Coleman (Stanford), Christopher Collins (UOIT), Marc Davis (Yahoo!), Mira Dontcheva (Adobe), Jean-Daniel Fekete (INRIA), Sue Fussell (Cornell), Nathan Good (PARC), Pat Hanrahan (Stanford), Marti Hearst (Berkeley), Joe Hellerstein (Berkeley), Jason Hong (CMU), Petra Isenberg (U. Calgary), Sara Kiesler (CMU), Aniket Kittur (CMU), Nicholas Kong (Berkeley), Monica Lam (Stanford), James Landay (U. Washington), Scott Lederer (Google), Fei-Fei Li (Stanford), Wilmot Li (Adobe), Luke Loneragan (Greenplum), Jock Mackinlay (Tableau), Chris Manning (Stanford), Jennifer Mankoff (CMU), Tara Matthews (IBM), Dan McFarland (Stanford), Alan Newberger (Google), Adam Perer (IBM), Jeff Pierce (IBM), Bryan Pendleton (CMU), Catherine Plaisant (UMD), Nathalie Riche (MSR), George Robertson (Microsoft), Lynn Robertson (Berkeley), Christine Robson (IBM), Noam Sagiv (Brunel), David Salesin (Adobe), Shiwei Song (Stanford), Chris Stolte (Tableau), Bongwon Suh (PARC), Frank van Ham (IBM), Fernanda Viégas (Flowing Media), Martin Wattenberg (Flowing Media), Chris Weaver (U. Oklahoma), Wesley Willett (Berkeley)

#### **ADVISORS:**

Maneesh Agrawala (Ph.D., Berkeley), James A. Landay (M.S., Berkeley)

#### **ADVISEES AT STANFORD:**

Elliot Babchick (BS), Michael Bostock (PhD), Daniel Chang (MS), Jason Chuang (PhD), Constance Duong (BS), Sean Kandel (PhD), Nam Wook Kim (MS), Diana MacLean (PhD), Vadim Ogievetsky (MS)