Michael Bernstein

Assistant Professor
Stanford University
Computer Science

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Education

Massachusetts Institute of Technology, Cambridge, MA   2012
Ph.D., Electrical Engineering and Computer Science
Advisors: David R. Karger and Robert C. Miller
Thesis: *Crowd-Powered Systems*

Massachusetts Institute of Technology, Cambridge, MA   2008
S.M., Electrical Engineering and Computer Science
Thesis: *Information Scraps – Understanding and Design*

Stanford University, Stanford, CA   2006
B.S. with honors and distinction, Symbolic Systems
Advisors: Scott R. Klemmer and Terry Winograd

Research Interests

Human-computer interaction, crowdsourcing, social computing, data mining for interactive applications.

Employment

Stanford University, Stanford, CA   1/13 –
Assistant Professor, Computer Science
Facebook, Palo Alto, CA   7/12 – 12/12
Postdoctoral Researcher, Data Science team
MIT Computer Science and Artificial Intelligence Laboratory, Cambridge, MA   9/06 – 6/12
Research Assistant, Haystack and User Interface Design Groups
Microsoft Research, Cambridge, MA   11/11 – 6/12
Consulting Researcher
Microsoft Research, Redmond, WA   6/11 – 9/11
Research Intern, Adaptive Systems and Interaction (ASI) Group
Palo Alto Research Center (PARC), Palo Alto, CA   6/09 – 8/09
Research Intern, Augmented Social Cognition Group
Microsoft Research, Redmond, WA   5/08 – 8/08
Research Intern, Visualization and Interaction for Business and Entertainment (VIBE) Group
Google, Mountain View, CA   6/06 – 9/06
User Interface Design Intern
Stanford University, Stanford, CA   6/05 – 9/05
Research Intern, HCI group
Palo Alto Research Center (PARC), Palo Alto, CA   6/04 – 9/04
Research Intern, Human-Document Interaction group
7 Studios, Santa Monica, CA   6/03 – 9/03
Video Game Design Intern

Publications

Conference Papers

[1] **Bernstein, M.,** Teevan, J., Dumais, S., Liebling, D., and Horvitz, E. Direct Answers for Search Queries in the Long Tail. 2012. *CHI 2012: SIGCHI Conference on Human Factors in Computing Systems.* 23% acceptance rate.
Best Paper honorable mention.

[2] **Bernstein, M.**, Karger, D.R., Miller, R.C., and Brandt, J. Analytic Methods for Optimizing Realtime Crowdsourcing. 2012. *CI 2012: Collective Intelligence.* 17% acceptance rate for oral presentation.

[3] André, P., **Bernstein, M.,** and Luther, K. 2012. Who Gives A Tweet? Evaluating Microblog Content Value. *CSCW 2012: ACM Conference on Computer-Supported Cooperative Work.* 9% acceptance rate for top-tier submissions.
Best Short Paper honorable mention.

[4] **Bernstein, M.**, Brandt, J., Miller, R.C., and Karger, D.R. 2011. Crowds in Two Seconds: Enabling Realtime Crowd-Powered Interfaces. *UIST 2011: ACM Symposium on User Interface Software and Technology.* 25% acceptance rate.

[5] Xiao, X., **Bernstein, M.**, Yao, L., Lakatos, D., Gust, L., Acquah, K., Ishii, H. 2011. PingPong++: Community Customization in Games and Entertainment. *ACE 2011: ACM Conference on Advances in Computer Entertainment Technology.* 26% acceptance rate.

[6] **Bernstein, M.**, Monroy-Hernandez, A., Harry, D., André, P., Panovich, K., and Vargas, G. 2011. 4chan and /b/: An Analysis of Anonymity and Ephemerality in a Large Online Community. *ICWSM 2011: AAAI Conference on Weblogs and Social Media.* 11% acceptance rate for oral presentation.
Best Paper award.

[7] Marcus, A., **Bernstein, M.,** Badar, O., Karger, D.R., Madden, S., and Miller, R.C. 2011. TwitInfo: Aggregating and Visualizing Microblogs for Event Exploration. *CHI 2011: SIGCHI Conference on Human Factors in Computing Systems.* 26% acceptance rate.

[8] **Bernstein, M.**, Miller, R.C., Little, G., Ackerman, M., Hartmann, B., Karger, D.R., Crowell, D., and Panovich, K. 2010. Soylent: A Word Processor with a Crowd Inside. *UIST 2010: ACM Symposium on User Interface Software and Technology.* 18% acceptance rate.
Best Student Paper award.

[9] **Bernstein, M.**, Suh, B., Hong, L., Chen, J., Kairam, S., and Chi, E.H. 2010. Eddi: Interactive Topic-Based Browsing of Social Status Streams. *UIST 2010: ACM Symposium on User Interface Software and Technology.* 18% acceptance rate.

[10] **Bernstein, M.**, Marcus, A., Karger, D.R., and Miller, R.C. 2010. Enhancing Directed Content Sharing on the Web. *CHI 2010: SIGCHI Conference on Human Factors in Computing Systems.* 22% acceptance rate.

[11] Chen, J., Nairn, R., Nelson, L., **Bernstein, M.**, and Chi. E.H. Short and Tweet: Experiments on Recommending Content from Information Streams. *CHI 2010: SIGCHI Conference on Human Factors in Computing Systems.* 22% acceptance rate.

[12] **Bernstein, M.**, Tan, D., Smith, G., Czerwinski, M., and Horvitz, E. 2009. Collabio: A Game for Annotating People within Social Networks. *UIST 2009: ACM Symposium on User Interface Software and Technology.* 17% acceptance rate.

[13] Van Kleek, M., **Bernstein, M.**, Panovich, K., Vargas, G., Karger, D.R., and schraefel, mc. 2009. Note to Self: Examining Personal Information Keeping in a Lightweight Notekeeping Tool. *CHI 2009: SIGCHI Conference on Human Factors in Computing Systems.* 25% acceptance rate.
Best Short Paper honorable mention.

[14] **Bernstein, M.**, Sharger, J., and Winograd, T. 2008. Taskposé: Exploring Fluid Boundaries in a Task-Based Window Manager. *UIST 2008: ACM Symposium on User Interface Software and Technology.* 20.0% acceptance rate.

[15] Miller, R.C., Chou, V., **Bernstein, M.**, Little, G., Van Kleek, M., Karger, D., and schraefel, mc. 2008. Inky: A Sloppy Command Line for the Web with Rich Visual Feedback. *UIST 2008: ACM Symposium on User Interface Software and Technology.* 20% acceptance rate.

[16] Van Kleek, M., **Bernstein, M.**, Karger, D.R., and schraefel, mc. 2007. GUI — Phooey!: The Case for Text Input. In *Proceedings of UIST 2007: ACM Symposium on User Interface Software and Technology.* 17% acceptance rate.

[17] Hartmann, B., Klemmer, S.R., **Bernstein, M.**, Abdulla, L., Burr, B., Robinson-Mosher, A., Gee, J. 2006. Reflective physical prototyping through integrated design, test, and analysis. In *Proceedings of UIST 2006: ACM Symposium on User Interface Software and Technology.* 23% acceptance rate.
Best Paper award.

Journal Articles

[18] **Bernstein, M.**, Tan, D., Smith, G., Czerwinski, M., and Horvitz, E. Personalization via Friendsourcing. 2010. *ACM Transactions on Computer-Human Interaction (TOCHI), 17(2)*.

[19] **Bernstein, M.**, Van Kleek, M., Karger, D.R., and schraefel, mc. 2008. Information Scraps: How and Why Information Eludes our Personal Information Management Tools. *ACM Transactions on Information Systems (TOIS)*, *26(4)*.

Editorships

[20] Chi, E.H., and Bernstein, M (Eds.). *Special Issue on Crowdsourcing*. IEEE Internet Computer, 2012.

Book Chapters

[21] Little, G., Miller, R.C., Chou, V., **Bernstein, M.**, Lau, T., Cypher, A. Sloppy Programming. In Cypher, A., Dontheva, M., Lau, T., and Nichols, J. (Eds.), *No Code Required: Giving Users Tools to Transform the Web*. Burlington: Morgan Kaufmann, 2010.

Videos, Thought Papers, Posters, Demonstrations (Peer Reviewed)

[22] Marcus, A., **Bernstein, M.**, Badar, O., Karger. D.R., Madden, S., Miller, R.C. Tweets as Data: Demonstration of TweeQL and TwitInfo. In *SIGMOD 2011 Demos*.

[23] **Bernstein, M.**, Ackerman, M.A., Chi, E.H., and Miller, R.C. The Trouble with Social Computing Systems Research. 2011. In *alt.chi 2011: Extended Abstracts of CHI 2011.*

[24] **Bernstein, M.**, André, P., Luther. K., Poole, E., Solovey, E., Paul, S., Kane, S., and Grudin, J. CHIstory. 2009. In *CHI 2009: SIGCHI Conference on Human Factors in Computing Systems*. Most Entertaining Video award.

[25] **Bernstein, M.**, Van Kleek, M., schraefel, mc, and Karger, D.R. 2007. Management of Personal Information Scraps. 2007. In *Extended Abstracts of CHI 2007: Work-in-progress.* People's Choice award.

[26] **Bernstein, M.**, Robinson-Mosher, A., Yeh, R.B., Klemmer, S.R. 2006. Diamond's Edge: From Notebook to Table and Back Again. In *Conference Supplement to Ubicomp 2006: Posters*.

[27] Hartmann, B., Klemmer, S.R., **Bernstein, M.**, and Mehta, N. 2005. *d.tools: Visually Prototyping Physical UIs through Statecharts. In Conference Supplement to UIST 2005*: *Demonstrations*. Seattle, WA, October 2005.

Magazine Articles

[28] Marcus, A., **Bernstein, M.**, Badar, O., Karger, D.R., Madden, S., and Miller, R.C. Processing and Visualizing the Data in Tweets. *SIGMOD Record*, to appear.

[29] **Bernstein, M.** Doing work, or Doing Work? *Communications of the ACM* 53, 8 (Aug. 2010), 8-9.

Workshop Papers

[30] **Bernstein, M.**, Kairam, S., Suh, B., Hong, L., and Chi, E.H. 2010. A Torrent of Tweets: Managing Information Overload in Online Social Streams. In *Proceedings of the 2010 CHI Workshop on Microblogging: What and How Can We Learn from It?*

[31] André, P., schraefel, mc, **Bernstein, M.**, Dix. A., Luther, K., and White, R. Designing for Schadenfreude (or, how to express well-being and see if you're boring people). In *Proceedings of the 2010 CHI Workshop on Microblogging: What and How Can We Learn from It?*

[32] Suh, B., Hong, L., Convertino, G., Chi, E.H., and **Bernstein, M.** Sensemaking with Tweeting. In *Proceedings of the 2010 CHI Workshop on Microblogging: What and How Can We Learn from It?*

[33] **Bernstein, M.**, Marcus, A., Karger, D.R., and Miller, R.C. 2010. Who am I? Two-four-six-oh-one! In *Proceedings of the 2010 CSCW Workshop on Revisiting Research Ethics in the Facebook Era.*

[34] **Bernstein, M.**, Van Kleek, M., schraefel, mc, and Karger, D.R. 2008. Evolution and Evaluation of an Information Scrap Manager. In *Proceedings of PIM 2008: CHI 2008 Workshop on Personal Information Management.*

[35] Van Kleek, M., **Bernstein, M.**, André, P., Pertunnen, M., Karger, D.R., schraefel, mc. 2008. Simplifying knowledge creation and access for end users on the SW. In *Proceedings of the SWUI 2008: CHI 2008 Workshop on Semantic Web User Interfaces*.

[36] **Bernstein, M.**, Van Kleek, M., Karger, D.R., and schraefel, mc. 2007. Personal Information Retrieval and the Problem of Information Scraps. In *Proceedings of HCIR 2007: Workshop on Human-Computer Interaction and Information Retrieval.*

[37] **Bernstein, M.**, Van Kleek, M., Karger, D.R., and schraefel, mc. 2007. Information Scraps: Eluding our Personal Information Management Tools. In *Proc. CSW 2007: CSAIL Student Workshop*.

Invited Panelist

[38] RepliCHI – CHI should be replicating and validating results more: discuss. 2011. In *Proceedings of CHI 2011.*

Unrefereed Publications

[39] **Bernstein, M.**, Van Kleek, M., Karger, D.R., and schraefel, mc. 2007. Wicked Problems and Gnarly Results: Reflecting on Design and Evaluation Methods for Idiosyncratic Personal Information Management Tasks. *MIT Technical Report MIT-CSAIL-TR-2008-007.*

[40] Hartmann, B., Klemmer, S.R., and **Bernstein, M**. 2006. Prototypes Enable Collaboration in Product Design – Let's Help Designers Build More of Them. Boaster Paper in *Human Computer Interaction Consortium Winter Workshop.*

[41] Hartmann, B., Klemmer, S.R., and **Bernstein, M**. *d.tools: Integrated Prototyping for Physical Interaction Design.* Work-in-Progress report in *IEEE Pervasive Computing*, Oct-Dec 2005.

Exhibitions

[42] Streaming crowd data from PingPong++ [5] embedded in:
Dublon, G., Pardue, L., Mayton, B., Swartz, N., Hurst, P., Joliat, N., and Paradiso, J. 2011. DoppelLab. Ars Electronica.

Awards

Best Paper, AAAI ICWSM (2011)
Best Student Paper, ACM UIST (2010)
Best Paper Honorable Mention, ACM CHI 2012
Best Paper co-recipient, ACM UIST (2006)
Best Short Paper co-nominee, ACM CSCW 2012, ACM CHI 2009

George M. Sprowls Award for best doctoral thesis in Computer Science at MIT (2012)
Microsoft Research PhD Fellowship (2011)
Xerox Fellowship (2008)
National Science Foundation Graduate Research Fellowship (2007)
Phi Beta Kappa, Stanford University (2006)
Firestone Award for Excellence in Undergraduate Research, Stanford University (2006)
Nomination, Boothe Prize for Excellence in Writing, Stanford University (2003)

Service

Program Committee
ACM UIST 2011
AAAI ICWSM 2011–2012
HCOMP 2012
CSCW PIM workshop 2012
KDD CrowdKDD workshop 2012

Chair
Videos, Technical Program: ACM CHI 2012, CHI 2011.
Proceedings, Collective Intelligence 2012.

CHI workshop on Rapidly Iterating Ideas in Crowdsourcing and Human Computation. 2012.
CHI workshop on Crowdsourcing and Human Computation. 2011.
Student Volunteering, ACM UIST 2010.
First Workshop on Human Computer Interaction and Information Retrieval (HCIR). 2007.

Editor
IEEE Computing, special issue on crowdsourcing. 2012.
CrowdResearch.org blog. 2011 – present.
ACM XRDS magazine (formally Crossroads). 2010 – 2011.

Reviewing
CHI 2007 – 2012, UIST 2008 – 2012, CSCW 2009 – 2013, ICWSM 2011 – 2012, IUI 2012, UBICOMP 2012, ISWC 2009, ITS 2012.

Student Volunteer
UIST 2010 (chair), CSCW 2010, CHI 2006.

Organizations
Founding Organizer, CrowdResearch.org. 2011 – present.
Founding Organizer, BostonCHI Labs research consortium. 2009 – 2012.
Organizer, MIT CSAIL Human-Computer Interaction Speaker Seminar. 2006 – 2010.
Founding Organizer, MIT Human-Computer Interaction Reading Group. 2006 – 2010.

DARPA ISAT Future Ideas Symposium. Selected as one of seventeen graduate students nationwide to participate. 2010.
Invited blogger, ACM Communications of the ACM Blog. 2009 – 2010.

Talks

[1] *Crowd-Powered Systems — Job Talk*
     Facebook Data Science, Menlo Park, CA, April 2 2012.
     Microsoft Research, Redmond, WA, March 29 2012.
     Michigan School of Information, Ann Arbor, MI, March 26 2012.
     Michigan Computer Science and Engineering, Ann Arbor, MI, March 22 2012.
     Carnegie Mellon Univeristy, Pittsburgh, PA, March 19 2012.
     UC San Diego Computer Science and Engineering, La Jolla, CA, March 16 2012.
     UC San Deigo Cognitive Science, La Jolla, CA, March 14 2012.
     Brown University, Providence, RI, March 8 2012.
     Stanford University, Stanford, CA, March 5 2012.
     Google Research, Mountain View, CA, March 2 2012.
     University of Washington Computer Science and Engineering, Seattle, WA, February 28 2012.
     Princeton University, Princeton, NJ, February 22 2012.
     University of Washington Information School, Seattle, WA, February 16 2012.
     UC Berkeley, Berkeley, CA, February 7 2012.
     UC Los Angeles, Los Angeles, CA, February 2 2012.
     Columbia University, New York, NY, January 30 2012.
[2] *Crowd-Powered Systems*
     Emory University, Atlanta, GA, January 27 2012.
     Georgia Institute of Technology, Atlanta, GA, January 26 2012.
     Microsoft Research New England, Cambridge, MA, January 20 2012.
     Tufts University, Cambridge, MA, January 19 2012.
     IBM Research, Cambridge, MA, May 24 2011.
[3] *Crowd-Powered Interfaces*
     Carnegie Mellon University, Pittsburgh, PA, March 1 2011.
     IBM Research, Haifa, Israel, December 29 2010.
[4] *Soylent: A Word Processor with a Crowd Inside*
     Cyberlaw: Difficult Issues with Jonathan Zittrain, Harvard University, Cambridge MA, Sept 27 2010.
[5] *Data for the people, by the people*
     HarambeeNet 2010, Durham, NC, July 9 2010.
[6] *Crowd-Powered Interfaces*
     DARPA ISAT, Washington D.C., June 24 2010.
[7] *Personalization via Friendsourcing*
     IBM Research Almaden, CA, July 22 2009.
[8] *Information Scraps: Understanding and Design*
     University of Washington, Seattle, WA, June 11 2008.

Selected Press

[1] More Search Could Be Crowdsourced. PCWorld, May 2012.
     http://www.pcworld.com/article/255171/acm_chi_more_search_could_be_crowdsourced.html
[2] What Makes a Great Tweet. Harvard Business Review, May 2012.
[3] The Worst Kinds Of Tweets: STUDY. Huffington Post, April 2012.
     http://www.huffingtonpost.com/2012/04/18/the-worst-kinds-of-tweets_n_1434727.html?ref=technology
[4] Newsflash: Two-Thirds of Tweets Boring, Says Study. Time, February 2012.
     http://techland.time.com/2012/02/02/newsflash-two-thirds-of-tweets-boring-says-study/

[5]   Only About a Third of Tweets Are Worth Reading [STUDY]. Mashable, February 2012.
      http://mashable.com/2012/02/01/third-of-tweets-worth-reading/
[6]   Be Better at Twitter: The Definitive, Data-Driven Guide. The Atlantic, January 2012.
      http://www.theatlantic.com/technology/archive/12/01/be-better-at-twitter-the-definitive-datadriven-guide/252273/
[7]   4chanonomics. Slate, June 2011.
      http://www.slate.com/id/2297492
[8]   4 Online Services to Satisfy Your Vanity. CNN, January 2011.
      http://edition.cnn.com/2011/TECH/social.media/01/12/vanity.netiquette/
[9]   Are Your Tweets Boring Or Beneficial? Mashable, December 2010.
      http://mashable.com/2010/12/30/who-gives-a-tweet/
[10] MIT Researchers Build A 'Hot Or Not' for Twitter. TechCrunch, December 2010.
      http://techcrunch.com/2010/12/30/who-gives-a-tweet/
[11] It's People! Meet Soylent, the Crowdsourced Copy Editor. Harvard Nieman Journalism Lab, November 2010.
      http://www.niemanlab.org/2010/11/its-people-meet-soylent-the-crowdsourced-copy-editor/
[12] Adding Human Intelligence to Software. Technology Review, October 2010.
      http://www.technologyreview.com/computing/26535/
[13] Soylent: A Word Processor with a Crowd Inside. Wired, September 2010.
      http://www.wired.com/beyond_the_beyond/2010/09/soylent-a-word-processor-with-a-crowd-inside/
[14] Palo Alto Researchers Create Tool for Dealing with Twitter's "Information Overload". ReadWriteWeb, April 2010.
      http://www.readwriteweb.com/archives/palo_alto_researchers_create_tool_for_dealing_with_twitter_information_overload.php
[15] Eddi Organizes All the Crap On Twitter Into Neat Piles. Fast Company, April 2010.
      http://www.fastcompany.com/1629462/parc-researchers-make-tweets-easier-to-browse
[16] What's in a Tweet? Technology Review, April 2010.
      http://www.technologyreview.com/web/25189/
[17] list.it: Post-It Notes for the Twitter Generation. New York Times, February 2010.
      http://www.nytimes.com/external/readwriteweb/2010/02/02
      /02readwriteweb-listit-post-it-notes-for-the-twitter-genera-13868.html
[18] Pourquoi les ordinateurs n'arrivent-ils pas à concurrencer les Post-it? Le Monde, March 2009.
      http://www.lemonde.fr/technologies/article/2009/03/20
      /pourquoi-les-ordinateurs-n-arrivent-ils-pas-a-concurrencer-les-post-it_1170786_651865.html
[19] Tip of the Week: Managing Post-It Notes. New York Times, January 2009.
      http://www.nytimes.com/2009/01/29/technology/personaltech/29askk-003.html
[20] Why Computers Can't Kill Post-Its. Forbes, January 2009.
      http://www.forbes.com/2009/01/21/postits-digital-tools-tech-intel-cz_lg_0122postits.html
[21] New York Times Tech Talk Podcast, January 2009.
      http://podcasts.nytimes.com/podcasts/2009/01/21/22techtalk.mp3
[22] Lifehacker.com: Featured Firefox Extension: list.it Synchronizes Firefox Notes in Firefox
      http://lifehacker.com/5113054/listit-synchronizes-text-notes-in-firefox
[23] Microsoft Conducts Research on Facebook with Collabio. TechCrunch, August 2008.
      http://www.techcrunch.com/2008/08/22/microsoft-uses-facebook-to-conduct-research-with-collabio/

Teaching

Graduate Student Teaching Certificate Program, MIT	2011
User Interface Design and Implementation (6.813/6.831), MIT	2010
Interactive Technology Design (6.089), MIT	2009 – 2011
Introduction to Human-Computer Interaction (CS 147), Stanford University	2005
Programming Methodologies (CS 106A), Stanford University	2004

Mentoring

[1]   Fall–Spring 2010: Kavya Joshi
[2]   Summer 2010 to Spring 2011: David Crowell – now a Masters student at MIT
[3]   Spring 2010: Margaret Leibovic – now at Mozilla
[4]   Spring 2008: Nicholas Edelman – now a Masters student at MIT
[5]   Summer 2007: Rajeev Nayak – now at Google, Curtis Liu – now at Google

References

David R. Karger
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