Michael Bernstein
Associate Professor of Computer Science

CONTACT INFORMATION
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Bio

BIO
Michael Bernstein is an Assistant Professor of Computer Science at Stanford University, where he is a member of the Human-Computer Interaction group. His research focuses on the design of crowdsourcing and social computing systems. His research has received numerous best paper awards at premier computing venues, and his Ph.D. students have gone on both to industry (e.g., Adobe Research, Facebook Data Science) and faculty positions (e.g., Carnegie Mellon, UC Berkeley). Michael has been recognized as a Robert N. Noyce Family Faculty Scholar, and has received an NSF CAREER award, an Outstanding Academic Title citation from the American Library Association, and an Alfred P. Sloan Fellowship. He holds a bachelor's degree in Symbolic Systems from Stanford University, as well as a master's degree and a Ph.D. in Computer Science from MIT.

ACADEMIC APPOINTMENTS
- Associate Professor, Computer Science
- Member, Bio-X

HONORS AND AWARDS
- Outstanding Academic Title, “Handbook of Collective Intelligence”, American Library Association, Choice
- Sloan Research Fellowship, Sloan Foundation
- NSF CAREER award, National Science Foundation
- Robert N. Noyce Family Faculty Scholar, Stanford University
- George M. Sprouws Award for best doctoral thesis in Computer Science, MIT

PROGRAM AFFILIATIONS
- Symbolic Systems Program

PROFESSIONAL EDUCATION
- PhD, MIT , Computer Science (2012)
- SM, MIT , Computer Science (2008)
• BS, Stanford University, Symbolic Systems (2006)

LINKS

Teaching

COURSES

2019-20
• Computer Science Research: CS 197 (Aut)
• Computer Science Research Seminar: CS 197A (Aut)
• Human-Computer Interaction Research: CS 347 (Win)
• Human-Computer Interaction Seminar: CS 547 (Aut, Win, Spr)
• Social Computing: CS 278 (Spr)

2018-19
• Human-Computer Interaction Design Studio: CS 247 (Win)
• Human-Computer Interaction Research: CS 376 (Aut)
• Human-Computer Interaction Seminar: CS 547 (Aut, Win, Spr)
• Social Computing: CS 278 (Spr)

2017-18
• Human-Computer Interaction Design Studio: CS 247 (Win)
• Human-Computer Interaction Research: CS 376 (Aut)
• Human-Computer Interaction Seminar: CS 547 (Aut, Win, Spr)

2016-17
• Human-Computer Interaction Design Studio: CS 247 (Win)
• Human-Computer Interaction Research: CS 376 (Aut)
• Human-Computer Interaction Seminar: CS 547 (Aut, Win, Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)
Tum Chaturapruek

Orals Chair
Ting Liao

Postdoctoral Faculty Sponsor
Amy Zhang

Orals Evaluator
Tum Chaturapruek

Master's Program Advisor
Amy Chen, Albert Feng, Kade Keith, Kristen Law, Jeff Sheng

Doctoral Dissertation Co-Advisor (AC)
Zhiyuan Jerry Lin

Doctoral (Program)

Ali Alkhatib, Mitchell Gordon, Catherine Mullings

Publications

PUBLICATIONS

• **Ink: Increasing Worker Agency to Reduce Friction in Hiring Crowd Workers** *ACM TRANSACTIONS ON COMPUTER-HUMAN INTERACTION*
  Salehi, N., Bernstein, M. S.
  2018; 25 (2)

• **Mosaic: Designing Online Creative Communities for Sharing Works-in-Progress** *DESIGN THINKING RESEARCH: MAKING DISTINCTIONS: COLLABORATION VERSUS COOPERATION*
  Kim, J., Agrawala, M., Bernstein, M. S., Plattner, H., Meinel, C., Leifer, L.
  2018: 105–29

• **Mechanical Novel: Crowdsourcing Complex Work Through Reflection and Revision** *DESIGN THINKING RESEARCH: MAKING DISTINCTIONS: COLLABORATION VERSUS COOPERATION*
  Kim, J., Sterman, S., Cohen, A., Bernstein, M. S., Plattner, H., Meinel, C., Leifer, L.
  2018: 79–104

• **Visual Genome: Connecting Language and Vision Using Crowdsourced Dense Image Annotations** *INTERNATIONAL JOURNAL OF COMPUTER VISION*
  2017; 123 (1): 32-73

• **Flash Organizations: Crowdsourcing Complex Work by Structuring Crowds As Organizations**
  Valentine, M., Retelny, D., To, A., Rahmati, N., Doshi, T., Bernstein, M.
  2017

• **Examining Crowd Work and Gig Work Through The Historical Lens of Piecework**
  Alkhatib, A., Bernstein, M. S., Levi, M., ACM
  ASSOC COMPUTING MACHINERY.2017: 4599–4616

• **MyriadHub: Efficiently Scaling Personalized Email Conversations with Valet Crowdsourcing**
  Kokkalis, N., Fan, C., Roith, J., Bernstein, M. S., Klemmer, S., ACM
  ASSOC COMPUTING MACHINERY.2017: 73–84

• **ImageNet Large Scale Visual Recognition Challenge** *INTERNATIONAL JOURNAL OF COMPUTER VISION*
  Russakovsky, O., Deng, J., Su, H., Krause, J., Satheesh, S., Ma, S., Huang, Z., Karpathy, A., Khosla, A., Bernstein, M., Berg, A. C., Fei-fei, L.
  2015; 115 (3): 211-252

• **Soylent: A Word Processor with a Crowd Inside** *COMMUNICATIONS OF THE ACM*
  Bernstein, M. S., Little, G., Miller, R. C., Hartmann, B., Ackerman, M. S., Karger, D. R., Crowell, D., Panovich, K.
  2015; 58 (8): 85-94

• **Learning Perceptual Kernels for Visualization Design** *IEEE TRANSACTIONS ON VISUALIZATION AND COMPUTER GRAPHICS*
  Demiralp, C., Bernstein, M. S., Heer, J.
  2014; 20 (12): 1933-1942

• **Catalyst: Triggering Collective Action with Thresholds**
  Cheng, J., Bernstein, M.
  2014

• **Ensemble: Exploring Complementary Strengths of Leaders and Crowds in Creative Collaboration**
  Kim, J., Cheng, J., Bernstein, M.
  2014

• **Quantifying the Invisible Audience in Social Networks**
Bernstein, Michael, S., Bakshy, E., Burke, M., Karrer, B.
2013

- EmailValet: Managing Email Overload through Private, Accountable Crowdsourcing
  Kokkalis, N., Köhn, T., Pfeiffer, C., Chorny, D., Bernstein, Michael, S., Klemmer, Scott, R.
  2013

- Crowd-scale Interactive Formal Reasoning and Analytics
  Fast, E., Lee, C., Aiken, A., Bernstein, M., Koller, D., Smith, E.
  2013

- The Future of Crowd Work
  Kittur, A., Nickerson, Jeffrey, V., Bernstein, Michael, S., Gerber, Elizabeth, M., Shaw, A., Zimmerman, J.
  2013

- Leveraging Online Populations for Crowdsourcing
  IEEE INTERNET COMPUTING
  Chi, E. H., Bernstein, M. S.
  2012; 16 (5): 10-12

- Who Gives A Tweet? Evaluating Microblog Content Value
  Andre, P., Bernstein, M., Luther, K.
  2012

- Direct Answers for Search Queries in the Long Tail
  Bernstein, M., Teevan, J., Dumais, S., Liebling, D., Horvitz, E.
  2012

- Analytic Methods for Optimizing Realtime Crowdsourcing
  CI: Collective Intelligence 2012
  Bernstein, M., Karger, D., Miller, R., Brandt, J.
  2012

- The Trouble with Social Computing Systems Research
  Bernstein, M., Ackerman, M., Chi, Ed, H., Miller, R.
  2011

- Crowds in Two Seconds: Enabling Realtime Crowd-Powered Interfaces
  Bernstein, M., Brandt, J., Miller, R., Karger, D.
  2011

- PingPong++: Community Customization in Games and Entertainment
  Xiao, X., Bernstein, M., Yao, L., Lakatos, D., Gust, L., Acquah, K.
  2011

- TwitInfo: Aggregating and Visualizing Microblogs for Event Exploration
  Marcus, A., Bernstein, M., Badar, O., Karger, D., Madden, S., Miller, R.
  2011

- 4chan and /b/: An Analysis of Anonymity and Ephemeral in a Large Online Community
  Bernstein, M., Monroy-Hernandez, A., Harry, D., Andre, P., Panovich, K., Vargas, G.
  2011

- Eddi: Interactive Topic-Based Browsing of Social Status Streams
  Bernstein, M., Suh, B., Hong, L., Chen, J., Kairam, S., Chi, Ed, H.
  2010

- Short and Tweet: Experiments on Recommending Content from Information Streams
  Chen, J., Nairn, R., Nelson, L., Bernstein, M., Chi, E.
  2010

- Personalization via Friendsourcing
  ACM Transactions on Computer-Human Interaction 2010
  Bernstein, M., Tan, D., Smith, G., Czerwinski, M., Horvitz, E.
• Who Am I? Two-Four-Six-Oh-One!
  Bernstein, M., Marcus, A., Karger, D., Miller, R.
  2010

• Enhancing Directed Content Sharing on the Web
  Bernstein, M., Marcus, A., Karger, D., Miller, R.
  2010

• A Torrent of Tweets: Managing Information Overload in Online Social Streams
  Bernstein, M., Kairam, S., Suh, B., Hong, L., Chi, Ed, H.
  2010

• Soylent: A Word Processor with a Crowd Inside
  Bernstein, M., Little, G., Miller, R., Hartmann, B., Ackerman, M., Karger, D.
  2010

• Collabio: A Game for Annotating People within Social Networks
  Bernstein, M., Tan, D., Smith, G., Czerwinski, M., Horvitz, E.
  2009

• Note to Self: Examining Personal Information Keeping in a Lightweight Note-Taking Tool
  Van Kleek, M., Bernstein, M., Panovich, K., Vargas, G., Karger, D., schraefel, m. c.
  2009

• CHistory
  Bernstein, M., Andre, P., Luther, K., Poole, E. S., Solovey, E., Paul, S.
  2009

• Taskpose: Exploring Fluid Boundaries in an Associative Window Visualization
  21st Annual ACM Symposium on User Interface Software and Technology
  Bernstein, M., Shrager, J., Winograd, T.
  ASSOC COMPUTING MACHINERY.2008: 231–234

• Simplifying Knowledge Creation and Access for End-Users on the Semantic Web
  Van Kleek, M., Bernstein, M., Andre, P., Pertunnen, M., Karger, D., schraefel, m. c.
  2008

• Evolution and Evaluation of an Information Scrap Manager
  Bernstein, M., Van Kleek, M., schraefel, m. c., Karger, D.
  2008

• Inky: A Sloppy Command Line for the Web with Rich Visual Feedback
  Miller, R., Chou, V., Bernstein, M., Little, G., Van Kleek, M., Karger, D.
  2008

• Wicked Problems and Gnarly Results: Reflecting on Design and Evaluation Methods for Idiosyncratic Personal Information Management Tasks
  MIT-CSAIL-TR-2008-007 2008
  Bernstein, M., Kleek, M. V., Khushraj, D., Nayak, R., Liu, C., Karger, D.
  2008

• Information Scraps: How and Why Information Eludes our Personal Information Management Tools
  ACM Transactions on Information Systems 2008
  Bernstein, M., Kleek, M. V., Karger, D., schraefel, m.
  2008

• Management of Personal Information Scraps
  Bernstein, M., Van Kleek, M., schraefel, m. c., Karger, D.
  2007

• GUI — Phooey!: The Case for Text Input
  Van Kleek, M., Bernstein, M., Karger, D., schraefel, m. c.
Personal Information Management, Personal Information Retrieval?  
Bernstein, M., Van Kleek, M., Karger, D., schraefel, m. c.  
2007

Diamond's Edge: From Notebook to Table and Back Again  
Ubicomp: Posters 2006  
Bernstein, M., Robinson-Mosher, A., Yeh, R., Klemmer, S.  
2006

Reflective Physical Prototyping through Integrated Design, Test, and Analysis  
Hartmann, B., Klemmer, Scott, R., Bernstein, M., Abdulla, L., Burr, B., Robinson-Mosher, A.  
2006

D.tools: Integrated prototyping for physical interaction design  
IEEE Pervasice Computing  
Hartmann, B., Klemmer, S. R., Bernstein, M.  
2005; 4 (4): 79-79

D.tools: Visually Prototyping Physical UIs through Statecharts  
UIST: Extended Abstracts 2005  
Hartmann, B., Klemmer, S. R., Bernstein, M., Mehta, N.  
2005