Michael Bernstein
Associate Professor of Computer Science

CONTACT INFORMATION

• Administrator
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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. Sprowls 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, Ana Saavedra

Orals Chair
Ting Liao

Postdoctoral Faculty Sponsor
Amy Zhang

Orals Evaluator
Jonathan Bassen, Tum Chaturapruek

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

Doctoral Dissertation Co-Advisor (AC)
Zhiyuan Jerry Lin

Doctoral (Program)

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., Chornyi, 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 Ephemerality 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.
2010

- **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

  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.
2007

- **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 PERVERSIVE 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