

Stanford



Michael Bernstein

Associate Professor of Computer Science

Bio

BIO

Michael Bernstein is an Associate Professor of Computer Science and STMicroelectronics Faculty Scholar at Stanford University, where he is a member of the Human-Computer Interaction group. His research focuses on the design of social computing and crowdsourcing systems. Michael has received eight best paper awards at premier computing venues, and he has been recognized with an NSF CAREER award and an Alfred P. Sloan Fellowship. His Ph.D. students have gone on both to industry (e.g., Adobe Research, Facebook Data Science, entrepreneurship) and faculty careers (e.g., Carnegie Mellon, UC Berkeley). Michael 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

- STMicroelectronics Faculty Scholar, Stanford University
- Sloan Research Fellowship, Sloan Foundation
- NSF CAREER award, National Science Foundation
- Best paper award, CHI 2019, CHI 2017, CSCW 2017, CHI 2016, UIST 2014, ICWSM 2011, UIST 2010, UIST 2006
- Outstanding Academic Title, "Handbook of Collective Intelligence", American Library Association, Choice
- 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

- Personal web site: <http://hci.stanford.edu/msb/>
- Google Scholar: <https://scholar.google.com/citations?user=zkhHirIAAAAJ&hl=en>

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)
- 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 Chaturapruerk, Pranav Rajpurkar, Sherry Ruan, Ana Saavedra

Orals Chair

Ting Liao

Postdoctoral Faculty Sponsor

Amy Zhang

Orals Evaluator

Jonathan Bassen, Tum Chaturapruerk

Master's Program Advisor

Amy Chen, Albert Feng, Kade Keith, Will Kenney, Andrej Safundzic, Jeff Sheng, Johnson Song

Doctoral Dissertation Co-Advisor (AC)

Zhiyuan Jerry Lin

Doctoral (Program)

Mitchell Gordon, Catherine Mullings

Publications

PUBLICATIONS

- **Street-Level Algorithms: A Theory at the Gaps Between Policy and Decisions**
Alkhatib, A., Bernstein, M., Assoc Comp Machinery
ASSOC COMPUTING MACHINERY.2019
- **Eevee: Transforming Images by Bridging High-level Goals and Low-level Edit Operations**
Lam, M. S., Young, G. B., Xu, C. Y., Krishna, R., Bernstein, M. S., Assoc Comp Machinery
ASSOC COMPUTING MACHINERY.2019
- **Conservation of Procrastination: Do Productivity Interventions Save Time or Just Redistribute It?**
Kovacs, G., Gregory, D., Ma, Z., Wu, Z., Emami, G., Ray, J., Bernstein, M. S., Assoc Comp Machinery
ASSOC COMPUTING MACHINERY.2019
- **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
- **Referring Relationships**
Krishna, R., Chami, I., Bernstein, M., Li Fei-Fei, IEEE
IEEE.2018: 6867–76
- **Shared Autonomy for an Interactive AI System**
Zhou, S., Mu, T., Goel, K., Bernstein, M., Brunskill, E., ACM
ASSOC COMPUTING MACHINERY.2018: 20–22
- **Engagement Learning: Expanding Visual Knowledge by Engaging Online Participants**
Krishna, R., Lee, D., Li, F., Bernstein, M., ACM
ASSOC COMPUTING MACHINERY.2018: 87–89
- **Mechanical Novel: Crowdsourcing Complex Work Through Reflection and Revision** *DESIGN THINKING RESEARCH: MAKING DISTINCTIONS: COLLABORATION VERSUS COOPERATION*
Kim, J., Serman, 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*
Krishna, R., Zhu, Y., Groth, O., Johnson, J., Hata, K., Kravitz, J., Chen, S., Kalantidis, Y., Li, L., Shamma, D. A., Bernstein, M. S., Li Fei-Fei, F. F.
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
- **Anyone Can Become a Troll: Causes of Trolling Behavior in Online Discussions**
Cheng, J., Bernstein, M., Danescu-Niculescu-Mizil, C., Leskovec, J., Assoc Comp Machinery
ASSOC COMPUTING MACHINERY.2017: 1217–30
- **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 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

- **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.

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 PERVASIVE 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