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## **HARVARD UNIVERSITY**

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### **Office Contact Information**

oDesk Corporation  
901 Marshall Street, Suite 200  
Redwood City, CA 94063

### **Home Contact Information**

443 Birch Street  
Redwood City, CA 94062  
617-595-2437

### **Undergraduate Studies:**

B.S., Mathematics, Computer Science (minor), United States Military Academy at West Point, 2001

### **Graduate Studies:**

Ph.D., Public Policy, Harvard University, 2011  
Thesis Title: "Online Labor Markets"

#### References:

Professor Richard Zeckhauser  
Harvard Kennedy School  
617-495-1174  
richard\_zeckhauser@harvard.edu

Professor Lawrence F. Katz  
Harvard University Department of Economics  
617-495-5148  
lkatz@harvard.edu

Professor Jeffrey B. Liebman  
Harvard Kennedy School  
617-495-8518  
jeffrey\_liebman@harvard.edu

### **Teaching and Research Fields:**

Research fields: Labor Economics, Organizational Economics, Personnel Economics

Teaching fields: Econometrics, Public Economics, Decision Analysis

### **Teaching Experience:**

Spring 2010	EC970: Online Work, Harvard College, Tutorial Leader
Fall 2007 – 2010	API-302: Analytic Frameworks for Public Policy, Harvard Kennedy School, Teaching Fellow for Professor Richard Zeckhauser
Spring 2008	API-102: Economic Analysis of Public Policy, Harvard Kennedy School, Teaching Fellow for Professor Jeffrey Liebman
Fall 2008	Math Camp for Incoming Ph.D./D.B.A. Candidates, Harvard Kennedy School, Instructor
Summer 2008	MA206: Probability and Statistics, United States Military Academy at West Point, Instructor

**Research Experience and Other Employment:**

2011 – Present    oDesk Corporation, Staff Economist  
2012 – Present    Harvard Kennedy School, Research Associate  
Summer 2010    London School of Economics, Centre for Economic Performance, Research Intern  
2007 – 2011    Harvard College, Pforzheimer House, Resident Tutor in Economics  
2001 – 2006    United States Army, Tank Platoon Leader and Executive Officer

**Professional Activities:*****Academic Affiliations***

2012 – Present    Harvard Law School, Berkman Center for Internet and Society, Affiliate  
2012 – Present    Harvard Kennedy School, Research Associate  
2009 – 2011    Institute for Quantitative Social Science

***Professional Service***

Reviewer for ACM-Electronic Commerce  
Reviewer for ACM-Computer Human Interaction  
Reviewer for The Quarterly Journal of Economics  
Reviewer for Clinical Psychological Science  
Program Committee for ACM-Electronic Commerce  
Program Committee for NIPS Workshop on Computation Social Science

***Select Academic Presentations & Panels***

10/2012    Johns Hopkins University SAIS, Technology and Labor Markets Conference  
11/2011    Harvard Business School, Networked Business Seminar: “The Applied Economics of an Online Labor Market: The Case of oDesk”  
4/2011    University of Chicago, Experimental Economics Lunch Seminar  
12/2010    Neural Information Processing Systems 24th Annual Conference, Vancouver, B.C.,  
Invited Speaker on “Social Science and the Wisdom of Crowds”  
12/2010    The 6th Workshop on Internet and Network Economics, Stanford University  
11/2010    Harvard Medical School, Christakis Lab Group Seminar Series  
10/2010    CrowdConf 2010, San Francisco, CA  
10/2010    Wharton School of Business, Advances with Field Experiments  
10/2010    University of Massachusetts at Amherst, Crowdsourcing Applications Seminar  
6/2010    University College London, European Association of Labour Economists / Society of Labor Economists 3rd International Conference  
6/2010    ACM-Conference on Electronic Commerce, Cambridge, MA  
3/2010    Harvard School of Engineering and Applied Science, EconCS Seminar  
11/2009    SJDM Annual Conference, Boston, MA

***Select Industry Presentations & Panels***

6/2012    BPO/ITO World Forum, Invited Panelist “The Social and Economic Impact of Global Sourcing: Getting the Complete Picture,” New York, NY  
3/2012    Founders and Funders Event, “Winning the Talent War,” Redwood City, CA  
12/2011    Intuit, Big Data and Analytics Workshop, Mountain View, CA  
11/2011    Harvard Business School, Cyberposium 17, Panel: “The Cloud and SMB”  
8/2011    Academy of Management Symposium, “The Global Ecology of Crowdsourcing,” San Antonio, TX

***Media Appearances***

4/2012    On Point with Tom Ashbrook: “The Rise of Micro-Labor,” NPR 90.9 WBUR Boston

### **Honors, Scholarships, and Fellowships:**

2010	University of Chicago, Becker Center on Price Theory, Summer Camp
2008 – 2010	NSF-IGERT Multidisciplinary Fellowship in Inequality and Social Policy
2009	Institute for Human Studies Graduate Fellowship
2008	National Science Foundation Graduate Research Fellowship, Honorable Mention
2000	Outstanding Winner, Mathematical Contest in Modeling and SIAM Prize Winner (with J. Gibbs and K. Arnett)

### **Grants:**

2010	Harvard University, Lab for Economic Applications and Policy, Research Grant
2010	Harvard University, Institute for Quantitative Social Science, Travel Grant
2010	Amazon Research Grant, Web Services
2009	Harvard Law School, Berkman Center for Internet and Society, Research Grant

### **Publications:**

#### ***Economics Journals***

“The Online Laboratory: Conducting Experiments in a Real Labor Market” (with D. Rand and R. Zeckhauser), *Experimental Economics*, 14:3 (2011), 399-425.

“The Condition of the Turing Class: Are Online Employers Fair and Honest?” *Economics Letters*, 111:1 (April 2011), 10-12.

#### ***Computer Science Journals / Proceedings***

“Labor Allocation in Paid Crowdsourcing: Experimental Evidence on Positioning, Nudges and Prices” (with D. Chandler), *Proceedings of the 25th Conference on Artificial Intelligence (AAAI), Human Computation Workshop (HCOMP)*, August 2011.

“Designing Incentives for Inexpert Human Raters” (with A. Shaw and D. Chen), *Proceedings of the ACM Conference of Computer Supported Cooperative Work (ACM-CSCW)*, Best Paper Nominee, March 2011.

“Online Labor Markets,” *Proceedings of the 6th Workshop on Internet and Network Economics (WINE)*, December 2010.

“Algorithmic Wage Negotiations: Applications to Paid Crowdsourcing” (with R. Zeckhauser), *Proceedings of CrowdConf*, 2010.

“Task Search in a Human Computation Market” (with L. Chilton, R. Miller and S. Azenkot), *Proceedings of the ACM Conference on Knowledge Discovery and Data Mining/Human Computation (ACM-KDD/HCOMP)*, 2010.

“The Labor Economics of Paid Crowdsourcing” (with L. Chilton), *Proceedings of the 11th ACM Conference on Electronic Commerce (ACM-EC)*, 2010.

### **Job Market Paper:** “Computer-Mediated Matchmaking: Facilitating Employer Search and Screening”

To reduce search frictions, the creators of computer-mediated markets often explicitly recommend trading partners to each other. Recommendations of this kind raise two empirical questions: (1) are the recommendations effective and (2) to what extent, if any, do recommended matches crowd out organic matches? Using both experimental and observational data, we answer these questions in the context of an online labor market. We also create a simple model of employer search and screening that provides a framework for understanding the results. In the experiment, a treatment group of employers received algorithmically-generated recommendations of candidates whom the employers could easily recruit for their posted vacancies. As expected, the treatment increased recruiting: the fraction of employers engaged in recruiting increased by nearly 19%. The treatment also was effective in raising fill rates, but only in the relatively high-skilled software and web development categories. In those categories the fill rate increased by nearly 17%. Surprisingly, we find that treated employers hired more of both recruited and non-recruited, organic applicants, *i.e.*, those that applied without being recruited. This complementarity was likely caused by recruited applicants serving as a kind of loss leader—their presence encouraged greater screening intensity by employers that spilled over onto organic applicants. This finding suggests that despite explicitly promoting certain workers over others, recommendations can nevertheless improve marketplace efficiency without making anyone *within the same* marketplace obviously worse off.

### **Research Papers in Progress:**

“Overcoming Congestion in a Matching Market by Making Applications Costly” (with R. Johari and D. Chandler).

“Virtual Migration: the Effect of Outsourcing through Online Platforms on Workers in Developing Countries” (with D. Pomeranz).

“Digitization of Information and the Market for Contract Labor” (with A. Agrawal, N. Lacetera and E. Lyons). To appear in the NBER Economics of Digitization volume.

“Helping Workers Make Human Capital Decisions via Algorithmic Recommendations” (with P. Coles).

### **Working Papers:**

“Employer Expectations, Peer Effects and Productivity: Evidence from a Series of Field Experiments,” 2010. Status: draft available.

“The Wages of Pay Cuts: Evidence from a Field Experiment” (with D. Chen), 2012. Status: draft available.

“Procurement, Incentives and Bargaining Friction: Evidence from Government Contracts,” 2009. Status: revise and resubmit at *The Journal of Law and Economics*.

### **Non-Refereed Publications:**

“The Need for Standardization in Crowdsourcing” (with P. Ipeirotis), presented at the *Crowdsourcing Workshop, ACM-CHI 2011*, Vancouver, B.C., May 2011.

“Heads in the Cloud: Challenges and Opportunities in Human Computation” (with R. Miller, G. Little, M. Bernstein, J. Bigham, L. Chilton, M. Goldman and R. Nayak), *XRDS: Crossroads*, December 2010.