National Academies Study (and towards safe automation)

Claire Tomlin

Department of Electrical Engineering and Computer Sciences
Berkeley Artificial Intelligence Research Lab (BAIR)
Director, CITRIS Sustainable Infrastructures Initiative Initiative
University of California at Berkeley

December 1, 2017
National Academies Study 2015-2016

Information Technology and the U.S. Workforce: Where Are We and Where Do We Go from Here? (National Academies Press, 2017)

• https://www.nap.edu/catalog/24649/information-technology-and-the-us-workforce-where-are-we-and

• Led by Erik Brynjolfsson (MIT) and Tom Mitchell (CMU)
COMMITTEE ON INFORMATION TECHNOLOGY, AUTOMATION, AND THE U.S. WORKFORCE

ERIK BRYNJOLFSSON, Massachusetts Institute of Technology, Co-Chair
TOM M. MITCHELL, NAE,¹ Carnegie Mellon University, Co-Chair
DARON ACEMOGLU, NAS,² Massachusetts Institute of Technology
STEPHEN R. BARLEY, University of California, Santa Barbara
BARRETT S. CALDWELL, Purdue University
MELISSA CEFKIN, Nissan Research Center
HENRIK I. CHRISTENSEN, Georgia Institute of Technology
JOHN C. HALTIWANGER, University of Maryland, College Park
ERIC HORVITZ, NAE, Microsoft Research
RUTH M. MILKMAN, City University of New York
EDUARDO SALAS, Rice University
NICOLE SMITH, Georgetown University
CLAIRE J. TOMLIN, University of California, Berkeley

Staff

EMILY GRUMBLING, Program Officer, Computer Science and Telecommunications Board (CSTB)
MARGARET HILTON, Senior Program Officer, Division of Behavioral and Social Sciences and Education
JON EISENBERG, Director, CSTB
SHENAE BRADLEY, Administrative Assistant, CSTB
RENEE HAWKINS, Financial and Administrative Manager, CSTB
KATIRIA ORTIZ, Research Associate, CSTB
Information Technology and the U.S. Workforce: Where Are We and Where Do We Go from Here? (National Academies Press, 2017)

- [https://www.nap.edu/catalog/24649/information-technology-and-the-us-workforce-where-are-we-and](https://www.nap.edu/catalog/24649/information-technology-and-the-us-workforce-where-are-we-and)
- Led by Erik Brynjolfsson (MIT) and Tom Mitchell (CMU)

Lack of data available on basic questions
- scope and rate of change of key technologies, like AI
- which technologies are changing which types of jobs
- what new work opportunities are emerging

Recommendation: **AI index**
- track the pace and spread of AI technology
- combine with data on skills and tasks involved in different occupations to guide education and job-training
- public-private partnership: “sense and respond” approach; A/B testing; not only digital, but conventional government data valuable
- Incentivization