UH 4504: Honors Discovery and Innovation Studios

Robots: AI, Algorithms, and the Smart Machines (R)evolution

Professor
Dates
Location
CRN XXXXX

DESCRIPTION

A recent piece by DC-think tank the Brookings Institution proclaims that "robots aren't taking the jobs, just the paychecks". This studio class will engage with this claim. In particular, we will focus on the challenges robots, automation, and artificial intelligence (AI or smart machinery) brings to the organization and function of economic institutions (i.e. markets, property rights, money, the division of labor, trade, work organization, income distribution etc).

After exploring the impact the introduction of machinery has on economic institutions, we will turn to explore why, where and how actual technologies (e.g. the blockchain, the "internet of things" [IoT]) can be deployed impacting economic institutions and transforming goods and service sectors. In the final part of the studio, we will provide policy recommendations to the challenges of those technology deployments.

We will also examine how the increasing use of smart machinery (robots) influences key market fundamentals of capitalist development (i.e. prices, wages, employment, output, productivity, credit, etc.). In this context, we will turn to choose examples of 21st-century technologies or new business models (i.e. crypto-assets like Bitcoin, driverless cars, Uber) to deliver policy recommendations to economic and social challenges that may appear as a consequence of those technologies introduction into the market.

Content/modules

- Exposition of industrial revolutions: This content will focus on the impacts machinery have on market fundamentals (i.e. prices, wages, employment, output, productivity, credit, etc.), and institutions (i.e. Markets, property rights, money, the division of labor, trade, work organization, income distribution etc). (The Luddites)
- Theoretical debate: Main points on machinery of the classics (Smith, Malthus, Ricardo, Marx, Leontief), an exposition of the creative-destruction theory of Schumpeter and the disruptive technology theory of Christensen.
- Labor-saving effect: This content will reflect the technological change and its implications for labor markets and work organization, utopian and dystopian scenarios, and may include the sociology of work.

Related material

Interview With Sophia, An Artificial Super Intelligent Robot Wants Job, Family Citizenship. (https://www.youtube.com/watch?v=fLvL7uqrMVc)

(Jeopardy Champion) Ken Jennings 2013 https://www.youtube.com/watch?v=b2M-SeKey4o

Watson. The IBM team https://www.youtube.com/watch?v=lI-M7O_bRNg

Robots documentary 2018
https://www.youtube.com/watch?v=y_HotWXkXy0

15 jobs that will disappear in 20 years https://www.youtube.com/watch?v=r211u89eUaY

The first robot declared a citizen by Saudi Arabia
(https://www.youtube.com/watch?v=E8Ox6H64yu8)

The millenium project http://107.22.164.43/millennium/challeng.html

The Political Economy of Robots : Prospects for Prosperity and Peace in the Automated 21st Century Ryan Kiggins (Selected chapters)

Automation everyday life http://www.pewinternet.org/2017/10/04/automation-in-everyday-life/

AI, Robotics, and the Future of Jobs http://www.pewinternet.org/2014/08/06/future-of-jobs/

Public Predictions for the Future of Workforce Automation
http://www.pewinternet.org/2016/03/10/public-predictions-for-the-future-of-workforce-automation/

Shareable facts on Americans' views and attitudes toward automation technologies
http://www.pewinternet.org/2017/10/04/shareable-facts-on-americans-views-and-attitudes-toward-automation-technologies/

Jobs Alone Do Not Explain the Importance of Manufacturing
https://www.brookings.edu/blog/the-avenue/2013/04/03/jobs-alone-do-not-explain-the-importance-of-manufacturing/

America's Advanced Industries: What They Are, Where They Are, and Why They Matter
https://www.brookings.edu/research/americas-advanced-industries-what-they-are-where-they-are-and-why-they-matter/

Don't blame the robots for lost manufacturing jobs
https://www.brookings.edu/blog/the-avenue/2015/04/29/dont-blame-the-robots-for-lost-manufacturing-jobs/

Be Calm, Robots Aren't About to Take Your Job, MIT Economist Says

https://blogs.wsj.com/economics/2015/02/25/be-calm-robots-arent-about-to-take-your-job-mit-economist-says/

Robots are infiltrating the growth statist https://www.brookings.edu/blog/the-avenue/2015/04/27/robots-are-infiltrating-the-growth-statistics/

Man and Machine LSE (Jeffrey Sachs) https://www.youtube.com/watch?v=k1AAdZnF7xQ

America's advanced industries: New trends
https://www.brookings.edu/research/americas-advanced-industries-new-trends/

Frey, C. A., & Osborne, M. A. (2013). "The Future Of Employment: How Susceptible Are Jobs to Computerisation?" at http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf

Frey, C. A., & Osborne, M. A. (2015). "Technology at Work: The Future of Innovation and Employment," at http://www.oxfordmartin.ox.ac.uk/downloads/reports/Citi_GPS_Technology_Work.pdf

Information Technology and the U.S. Workforce: Where Are We and Where Do We Go from Here? (2017) April 2017 https://www.nap.edu/catalog/24649/ information-technology-and-the-us-workforce-where-are-we-and. 64.

Track how technology is transforming work, Tom Mitchell & Erik Brynjolfsson 13 April 2017, Nature http://www.nature.com/news/track-how-technology-istransforming-work-1.21837.

The Fourth Industrial Revolution (Chapter 1 and 2)
https://link.springer.com/content/pdf/10.1007%2F978-3-319-62479-2.pdf

Brynjolfsson, E., & McAfee, A. (2014). The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies. New York, NY: W. W. Norton & Company.

Bernstein, A., & Raman, A. (2015). The great decoupling. Boston: Harvard Business Review. Retrieved Nov 29, 2016 from https://hbr.org/2015/06/the-great-decoupling