Robots and the Workplace

Instructors:
Nina Mendelson (Law)
Marc Norman (Architecture and Urban Planning)

Schedule:
Wednesdays 3:15-6:15pm

Credits:
3.0

Classroom:
1070 Jeffries (formerly South) Hall, Law School

The Rust Belt is a term used to describe a large swath of the U.S. that relied heavily on manufacturing for wage growth, expansion of the middle class, philanthropy, and a high level of support services throughout the 20th century. The shift to globalization and a rise in technology, along with other factors, devastated vast areas in this belt after World War II, creating social upheaval, substantial out-migration, abandonment, and tectonic political shifts which are still being played out.

Looking into the future, the advent of autonomous technology, artificial intelligence, and new sales and delivery mechanisms could bring economic upheaval to a wide variety of professions from transportation to sales and fulfilment to hospitality services on a much wider geographic scale than the Rust Belt. Just as one example, U.S. logistics and transportation industry productivity totaled $1.48 trillion in 2015 and represented 8 percent of annual gross domestic product (GDP).[1] This sector provides many with relatively high wages and benefits without, in many cases, requiring an advanced degree. Some analysts predict a loss of 1.7 million trucking jobs due to autonomous technology.[2] How can we avoid the decades of slow devastation that came about due to shifts from a manufacturing to a tech and service economy with the coming innovations in automation?

Students will explore the history and current issues around employment shifts in order to create proposals for maintaining decent livelihoods in the face of automation, whether that is about short or long-term adaptation to workplace changes or providing assurances of basic levels of income. Experts in industry, policy, technology, law, and finance will assist in creating a collaborative learning environment where solutions are tested from a variety of angles. With an entrepreneurial approach, students will create solutions for industry and individuals, incorporating best practices, international precedents, and unconventional thinking.

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The course will begin by addressing:
*   Key issues around automation/robotics
*   Automation-prompted pressure on the employer-employee relationship and the corporate form
*   Effects on working conditions and workers' rights in a variety of sectors

In so doing, the course will take up the nature and history of work and employment; shifts and disruptions from automation; social and political implications; and innovations, strategies, and tactics.

Assignments will be team-based. Teams will organize to build a knowledge base for analyzing past, current and future conditions in order to formulate strategies for moving forward. Teams will make visual presentations supported by background information and reference materials.

Each team will make multiple presentations over the course of the semester. The final deliverable will be a collaboratively developed, concrete proposal presented in an engaging format that incorporates the work of the semester and that is responsive to the issues raised during the semester. The proposal is to be supported by a white-paper style written analysis.

Grading will be based on these assignments as well as class participation.

Class Participation 30%, Written Assignments and In-Class Presentations 30%, and Final Presentation 40%

Readings will be posted on Canvas throughout the semester.

Grading:
'A'   Excellent work
Work reflects outstanding achievement in both content and execution, and far exceeds the given requirements.

'B'   Good work
Work reflects high achievement in both content and execution, and excels beyond the given requirements.

'C'   Adequate work
Work fulfills the given requirements.

'D'   Poor work
Work is less than satisfactory and minimally or incompletely fulfills requirements.

'E'   Inadequate work

Work fulfills few if any of the requirements.

'I'   Incomplete work - This grade is only available due to health reasons or other emergency situations.

Students are expected to be extremely rigorous crediting authorship of sources including photographs, maps, diagrams, etc., from all sources including publications, colleagues or previous course work (see note below).
Important note on Plagiarism (approved by Faculty 2/16/2005) Plagiarism is knowingly presenting another person's ideas, findings, images or written work as one's own by copying or reproducing without acknowledgment of the sources. It is intellectual theft that violates basic academic standards. In order to uphold an equal evaluation for all work submitted cases of plagiarism will be reviewed by the individual faculty member and/or the Program Chair. Punitive measures will range from failure of an assignment to expulsion from the University.

Disability statement. If you think you need an accommodation for a disability, please let us know at your earliest convenience. Some aspects of this course, the assignments, the in-class activities, and the way the course is usually taught may be modified to facilitate your participation and progress. As soon as you make us aware of your needs, we can work with the Services for Students with Disabilities (SSD) office to help us determine appropriate academic accommodations. SSD (734- 763-3000; http://ssd.umich.edu) typically recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. Any information you provide is private and confidential and will be treated as such. For more information about this process, please feel welcome to contact the Office of Student Life.

Statement on Diversity, Equity, and Inclusion. Taubman College and the Law School affirm the principles of diversity, equity, and inclusion. We seek to have a diverse group of persons at all levels of the college - students, faculty, staff and administrators - including persons of different race and ethnicity, national origin, gender and gender expression, socioeconomic status, sexual orientation, religious commitment, age, and disability status. We strive to create a community of mutual respect and trust, a community in which all persons and their respective backgrounds, identities, and views are allowed to be made visible and communicated without the threat of bias, harassment, intimidation, or discrimination.

Other important Policies at Taubman and the Law School can be consulted at:
http://taubmancollege.umich.edu/students/academic_policies/non-rackham/courses/
http://taubmancollege.umich.edu/students/academic_policies/general/
https://www.law.umich.edu/currentstudents/studentservices/handbook/Pages/PoliciesandRegulations.aspx

Overview of Course Schedule Note: Consistent with the nature of this course, this is an evolving document. The instructors reserve the right to modify the course schedule, reading, and other assignments as appropriate.	
Jan. 18	**Optional--but highly recommended--PSI boot camp**, 1-5 pm, 0225 South Hall.
Class 1 January 23	**Overview of Course –** course structure *Reading:* Thomas Edsall, *The Robots Have Descended on Trump Country,* N.Y. Times, Dec. 13, 2018 Cynthia Estlund, *What Should We Do After Work? Automation and Employment Law,* Yale Law Journal (2018) Gerald F. Davis, *What Might Replace the Modern Corporation? Uberization and the Web Page Enterprise,* Seattle U. L. Rev. (2016) Speaker: Ross School of Business Professor Jerry Davis. Introduce the course structure and rough semester plan. Introduce the problem to solve in historical perspective; consider the nature of work and its value and purpose. Initial discussion of class interests.
Class 2 January 30	**Special North Campus Class on Robotics**: Speakers: Professor of Engineering and Director of Robotics Jessy Grizzle; Professor of Architecture and Director of the FABLab Wes McGee. **We will meet at 3: 15 pm in the New Commons at Taubman College of Architecture and Urban Planning.** *Reading:* David Autor, *Why Are There Still So Many Jobs,* Journal of Economic Perspectives (2015) Erik Brynjolffson & Tom Mitchell, *What Can Machine Learning Do? Workforce Implications*, Science (2017). Excerpts from Kevin Kelly, *The Inevitable: Understanding the 12 Technological Forces that will Shape our Future* (2017) McKinsey Global Initiative, *Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation*, (McKinsey 2017), pp. 23-30; 55-68 Discussion: What is a robot? What robot characteristics impact human employment? Problem generation and honing in on topics and direction for research by team.
Class 3	**Labor and employment perspective:**

| February 6 | Speaker: NYU Law Professor Cynthia Estlund.
Reading: Cynthia Estlund, *What Should We Do After Work? Automation and Employment Law,* Yale Law Journal (2018) (entire)
Excerpts from Richard Carlson, *Employment by Design*, Arkansas L. Rev. (2018) (tentative)
Excerpts from Mitchell Rubinstein, *Employees, Employers, and Quasi-Employers*, U. Pa. J. Bus. L. (2012) (tentative)
Guy Standing, Taskers in the Precariat, in Paus ed., Confronting Dystopia (2018).

What is tied to work in America?
What is work? |

Class 4 February 13	Speaker: Jennifer Kelly, UAW + shop floor representative David Rolf, SEIU. *Read*: David Rolf, Fight for $15, first three chapters Klaus Schwab, Fourth Industrial Revolution (tentative) Erik Brynjolffson & Andrew McAfee, Second Machine Age, chapters 12-14 (policy recommendations) **Assign scope-of-problem questions to all teams for research (or in class 5)**
Class 5 February 20	**Industry Spotlights -** Co-working gig economy tech companies: Joe Malcoun http://www.secondwavemedia.com/concentrate/features/cahootstour0439.aspx Diagramming exercise (mapping big shifts.) ("A central problem.") *Read*: Mignon Duffy, Building Sustainable Jobs and Supporting Human Potential in the Care Sector, in Paus, Confronting Dystopia (2016)
Optional February 21	Opening Keynote, Building Better Futures Conference - Carlo Ratti, MIT Senseable Cities Lab, 6pm - 8pm - https://taubmancollege.umich.edu/events/2019/02/22/building-better-futures-innovations-equitable-development
Optional February 22	Building Better Futures Conference, Innovations in Equitable Development (all day) - https://taubmancollege.umich.edu/events/2019/02/22/building-better-futures-innovations-equitable-development
Class 6 February 27	**Present answers to research assigned in class 4 (may take place during class 7)** Guest Speaker - Nicole Sherrard Freeman - Detroit Employment Solutions Corporation
March 6	No Class/Spring break

Class 7 March 13	Guest Speaker - Ben Penn, Wallace Fellow and Journalist for Bloomberg News - wage and labor policies/regulations, the administrative landscape, and the surge of impermanent work arrangements. 　　**[Assign research questions to all teams]** 　　**[Begin testing hypotheses/solution categories by interviewing stakeholders]**
Class 8 March 20	Speakers/stakeholder interviews; working in teams to develop solutions. Idea Accelerator Workshop to clarify and concretize final work product, topics and area of focus.
Class 9 March 27	**Present answers to research assigned in Class 7.**
Class 10 April 3	Continued work in teams to develop solutions
Class 11 April 10	Industry Spotlight: Tech Sector site visit
Class 12 April 17	Working capstone presentations
Class 13 April 24	Final capstone presentations

Additional useful resources may include:

Put to work : the WPA and public employment in the Great Depression /
Author Rose, Nancy Ellen.

The color of wealth : the story behind the U.S. racial wealth divide:
https://mirlyn.lib.umich.edu/Record/005229192

The fourth industrial revolution / Klaus Schwab.
https://search.lib.umich.edu/catalog/record/015058837?query=the%20fourth%20industrial%20revolution&utm_source=MLibrary

Inventing the future : postcapitalism and a world without work / Nick Srnicek and Alex Williams.
https://search.lib.umich.edu/catalog/record/015448795
https://www.versobooks.com/books/2315-inventing-the-future

McKinsey - Future of Work portal - https://www.mckinsey.com/featured-insights/future-of-work.
Robert Gordon, Rise and Fall of American Growth (2016) -
http://assets.press.princeton.edu/chapters/s10544.pdf

James Chamberlain, Undoing Work, Rethinking Community - on basic income

Greenberg & Lewis, ed., The City is the Factory

Popular press:
Atlantic, World Without Work (2015),
https://www.theatlantic.com/magazine/archive/2015/07/world-without-work/395294/
Atlantic, New Casualties of Automation (2017)
https://www.theatlantic.com/education/archive/2017/12/the-new-casualties-of-automation/548948/
New Yorker, Our Automated Future (2016)
https://www.newyorker.com/magazine/2016/12/19/our-automated-future
Wall Street Journal (2017) Self-Driving Cars Could Transform Jobs Held by 1 in 9 U.S. Workers
https://blogs.wsj.com/economics/2017/08/14/self-driving-cars-could-transform-jobs-held-by-1-in-9-u-s-workers/
NYT (Thomas Friedman), While You were Sleeping (2017)
https://www.nytimes.com/2018/01/16/opinion/while-you-were-sleeping.html
"Robotic kitchen:" https://www.spyce.com/
NYT - robots at the hotel front desk:
https://www.nytimes.com/2018/09/24/business/economy/hotel-workers-ai-technology-alexa.html
Safety implications: http://www.safetyandhealthmagazine.com/articles/16789-robots-in-the-workplace
Implications for German jobs:
https://www.newscientist.com/article/2148924-workplace-robots-have-had-little-impact-on-jobs-in-germany/
It's Not Technology That's Disrupting Our Jobs: The insecure nature of work is a result of decisions by corporations and policymakers. By Louis Hyman
https://www.nytimes.com/2018/08/18/opinion/technology/technology-gig-economy.html?rref=collection%2Fsectioncollection%2Fsunday&action=click&contentCollection=sunday&region=stream&module=stream_unit&version=latest&contentPlacement=7&pgtype=sectionfront
NYT - robots at the hotel front desk:
https://www.nytimes.com/2018/09/24/business/economy/hotel-workers-ai-technology-alexa.html

The Economist: Nearly half of jobs are vulnerable to automation; that could free people to pursue more interesting careers
https://www.economist.com/blogs/graphicdetail/2018/04/daily-chart-15?cid1=cust/ddnew/email/n/n/20180424n/owned/n/n/ddnew/n/n/n/nNA/Daily_Dispatch/email&etear=dailydispatch&utm_source=newsletter&utm_medium=email&utm_campaign=Daily_Dispatch&utm_term=20180424
Guardian profile of David Rolf, SEIU, and writeup of Fight for $15:
https://www.theguardian.com/us-news/2016/apr/09/fight-for-15-meet-the-enfant-terrible-behind-the-battle-for-us-minimum-wage
Sarita Gupta article in American Prospect:
https://prospect.org/article/its-not-future-work-its-future-workers-doubt

Websites and Reports:
DCRLecture: Laura Forlano – "Repairing Futures: Anticipation, Participation and Speculation"
Most relevant is "Reimaging Work" at 33.00mm https://vimeo.com/207318286
Organization for Co-Operation and Economic Development: Policy Brief: Online work in OECD countries http://www.oecd.org/employment/future-of-work/
Shift Commission Report - The Commission on Work, Workers, and Technology: Imagining scenarios for the future of work (Anne-Marie Slaughter, chair, 2018):
https://shiftcommission.work/
Accenture report on future of work - https://www.accenture.com/us-en/future-workforce
Cornerstone/IRRCi Report: "Retail Automation, Stranded Workers?" (May 2017):
https://irrcinstitute.org/wp-content/uploads/2017/05/Retail-Automation_Stranded-Workers-Final-May-2017_final_rev.pdfhttps://irrcinstitute.org/wp-content/uploads/2017/05/Retail-Automation_Stranded-Workers-Final-May-2017_final_rev.pdf
https://irrcinstitute.org/wp-content/uploads/2017/05/Retail-Automation_Stranded-Workers-Final-May-2017_final_rev.pdf

Presentation: http://mitsloan.mit.edu/100years/pdfs/Erik_Brynjolfsson.pdf

Podcasts:
https://www.thisamericanlife.org/608/the-revolution-starts-at-noon
https://www.npr.org/search?query=robot&page=1
Planet money youtube channel:
https://www.youtube.com/channel/UCY2BFztQeX0F9EeFCVqN31g
Video: (semi-humorous)

http://www.cc.com/episodes/j8g83p/the-daily-show-with-trevor-noah-extended---march-7--2018---terese-marie-mailhot-season-23-ep-23069 (starting at 10:00)

Freakonomics Radio - Are we running out of ideas: http://www.wnycstudios.org/story/are-we-running-out-ideas-rebroadcast_radio/

Links to additional articles:

https://drive.google.com/drive/folders/13siwLFt4HU13sWacvtnZMN4c4O0dsJNv?usp=sharing