## Job Design in the Age of Machines that Learn

Jeffrey V. Nickerson

IFIP Working Group 9.1: The Changing Nature of Work

This material is based upon work supported by the National Science Foundation under grants IIS-1422066, CCF-1442840, IIS-1717473, and IIS-1745643.

## starting a research collaboration network

#### **NSF Convergence Grant**

- Build a Research Collaboration Network
  - Academic and Industry Researchers
  - Money goes to running workshops and conferences
- Define a common language across disciplines
- Define a vision
- The Award: Kevin Crowston, Ingrid Erickson (Syracuse), Jeff Nickerson, (Stevens), \$500,000.

## Autonomous vehicles in society: Building a research agenda

Michigan State, May 18-19

- How can we structure relationships across the human-technology frontier that benefits all parties?
- What are the new principles for work design?

join the list organize workshops participate in conferences define common language define research vision

#### AAAI Fall Symposium Human Agent Groups: Studies, Algorithms, and Challenges

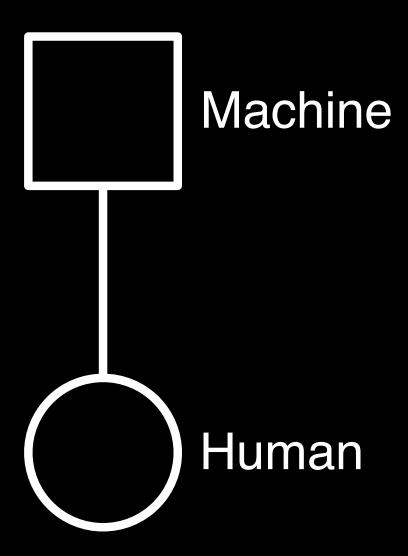
### technology

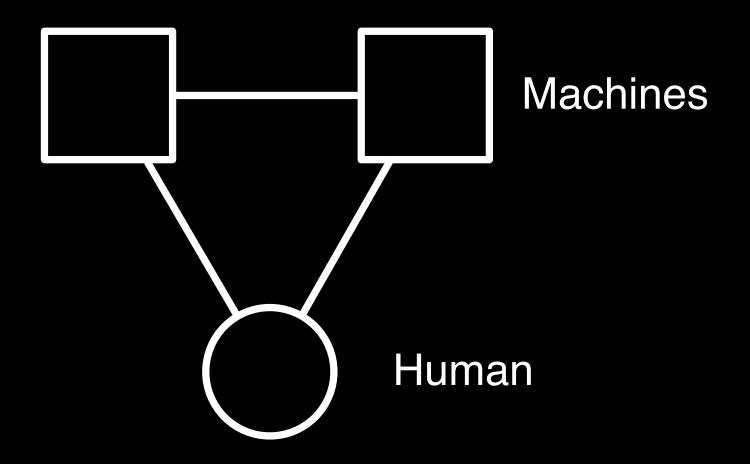
technology

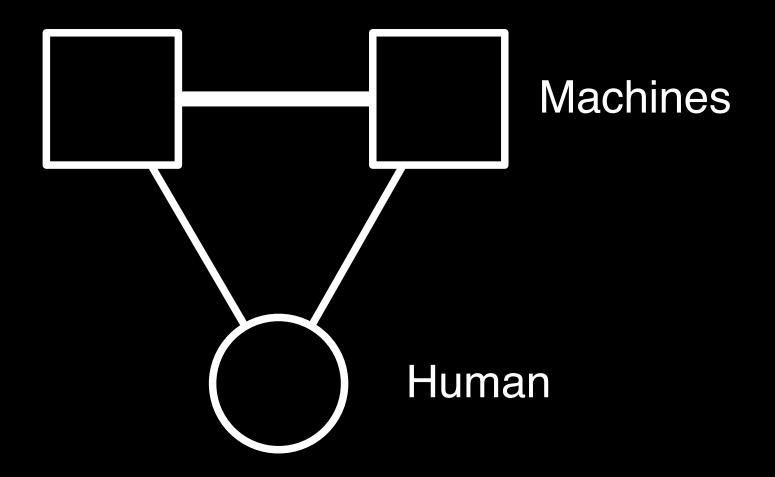
first order effect

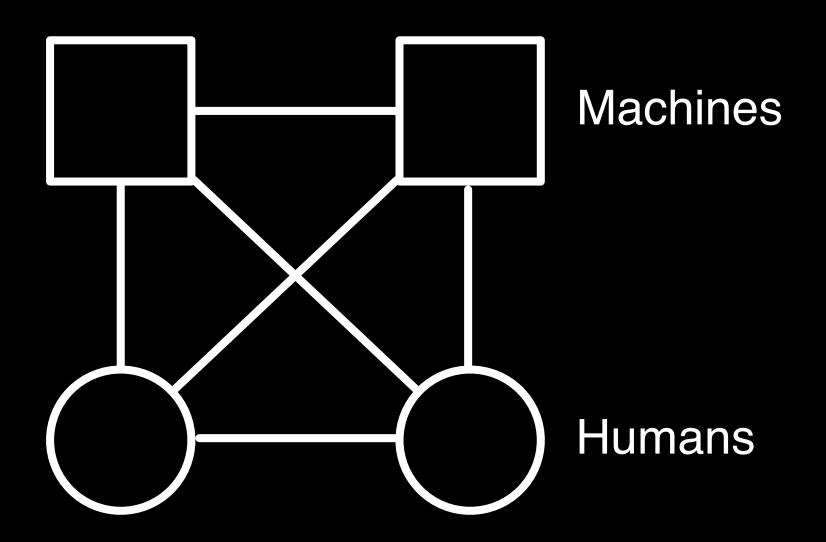
second order effect

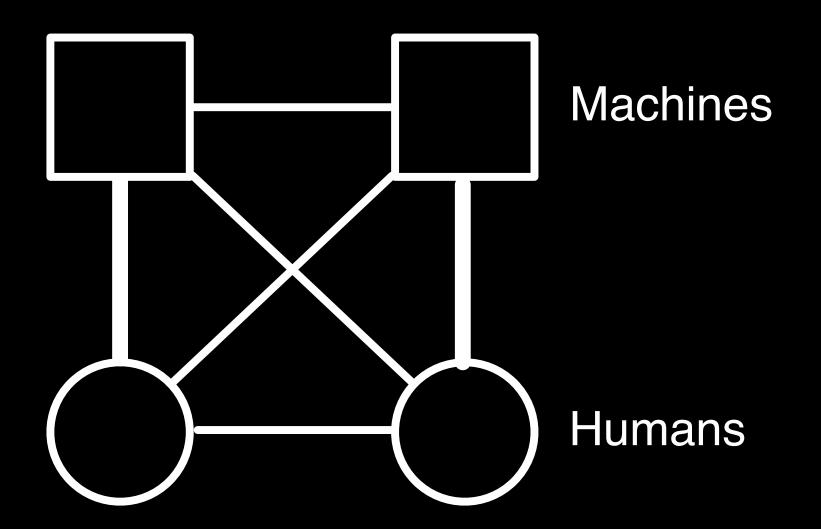
third order effect

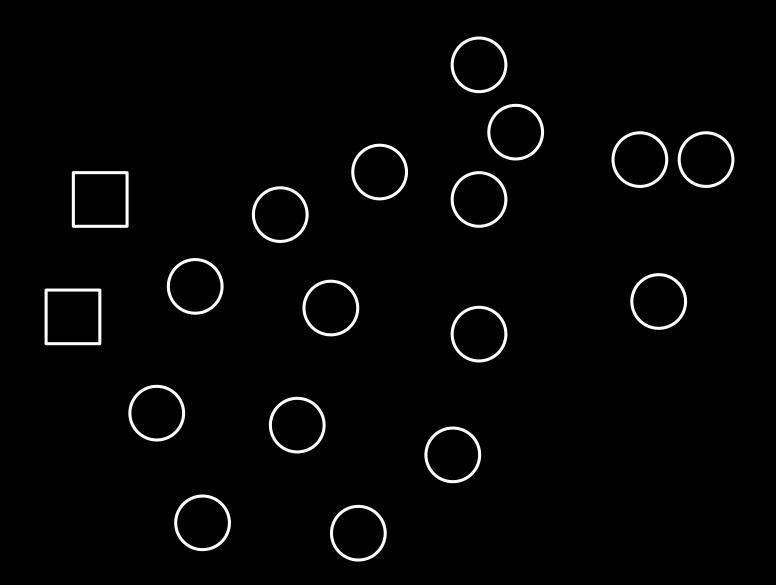


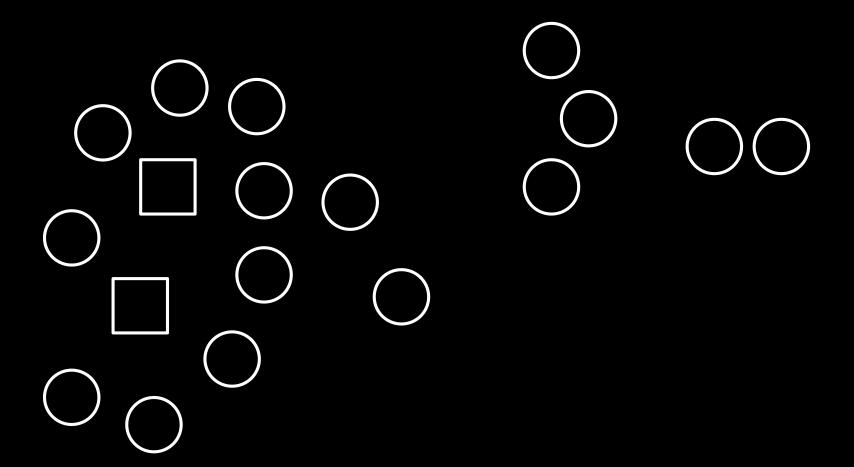












group entitivity tool agency extended agency collective agency skill task product service

#### substitute complement

### labor capital

technology

first order effect

second order effect

third order effect

## common language discussion

digital work assemblages digital nomading algorithmic management functions of management search engine optimization freelancing blockchain trust



# defining a vision: theories and research questions



- technology
- first order effect

second order effect

third order effect

- 1. Define a common language: concepts, variables, constructs, methods
- 2. Define a vision: research questions, possible futures, infrastructure needed

- technology
- first order effect
- second order effect
- third order effect