Human-Machine-Ecology:
A Workshop on the Emerging Risks, Opportunities, and Governance of Artificial Intelligence
Princeton University
Friday-Saturday, January 11-12

Friday January 11th
Location: Louis A. Simpson Intl. Building (20 Washington Road), Room A71

8:30 - Breakfast and Coffee

9:00 - Introduction
- Introduction to the topic, goals, end product, structure of panel discussions
  - Miguel Centeno - PIIRS Global Systemic Risk
  - Victor Galaz - Stockholm Resilience Centre (Stockholm University) and Beijer Institute of Ecological Economics (Royal Swedish Academy of Sciences).
  - Thayer Patterson & Peter Callahan - Examples of AI & automation in agriculture and the environment

10:00 - Coffee Break

10:30 - Panel #1
- Presentations on history, current state, and future of artificial intelligence, machine learning, and algorithmic management in environmental and agricultural fields.
  - Where are we now, how did we get here, and where are we going?
  - Exploring some examples, case studies, and potential of this technology.
    - Brian King
      - Machine learning and solving agricultural problems
    - Paul Larcey
      - Engineering artificial intelligence
    - Daniel Jimenez
      - “Data-Driven Agriculture to support rice farmers in Colombia”
    - Cloé Bakalar & Ben Zevenbergen
      - Case Studies in ethics in AI
  - Moderated Q&A with the panelists
    - Victor Galaz, Moderator

12:00 - Lunch

13:00 - Panel #2
- Presentations on the new risks/threats, concerns, and opportunities these new technologies potentially bring about.
  - Can we trust AI with these tasks?
  - What constraints exist in terms of monitoring, measurement, and data processing?
What are some of the concerns surrounding data biases, gaps, corruption, access, and ownership?

What are some distributional issues of access and equality associated with these technologies?

- Karen Levy
  - "Farm to Table: Data-Intensive Technologies in Agriculture"
- Solon Barocas
  - “Reap What You Sow: The Distributional Effects of Information Flow on the Farm”
- Darryl Farber
  - “Applying more intelligence to understand the interdependencies among critical infrastructure sociotechnical systems”
- Jonathan Tannen
  - “Algorithmic Fairness and its Relevance to Facebook”

- Moderated Q&A with the panelists
  - Chloé Bakalar, Moderator

14:30 - Coffee Break

15:00 - Panel #3

- Presentations on what we can learn from similar ongoing discussions about AI in other sectors?
  - What guiding governance principles, and mechanisms should AI-systems follow to avoid creating new systemic risks?
  - Cybersecurity, data privacy, globalization, governance, GDPR
    - Ed Felten
      - Public policy issues related to AI
    - David Garcia
      - “Shadow profiles and systemic risks of social inference”
    - Sarah Brayne
      - “Policing Algorithms”
    - Danit Gal
      - Cybersecurity and AI Safety
  - Moderated Q&A with the panelists
    - Miguel Centeno, Moderator

16:30 - Break Until Dinner

18:30 - Dinner

- An informal buffet-style catered dinner will be served at Miguel Centeno’s home located at 60 Pine Street near the Princeton campus. This is a 10-minute walk from the Nassau Inn.

Saturday January 12th
Location: Wallace Hall, Room 300

8:30 - Breakfast & Coffee

9:00 - Panel #4

- What (if anything) makes environment and agriculture unique in this space?
  - How can academics, policymakers, and technologists work together to recommend safe and productive implementation of these technologies in environmental and agricultural fields?
    - Seth Baum
      - “The role of environmental expertise in understanding and addressing AI issues"
    - Irina Brass
      - "Governing AI: How meaningful coordination between policy and technical experts can effectively redraw system boundaries"
    - Joanna Bryson
▪ Discussion on her work in AI regulation, how it relates to ordinary regulation of industry, the transnationality of ICT (more than AI itself) and how that impacts inequality and sustainability
  ▪ Michael Veale
    ▪ “The use of certification to regulate the social impacts of machine learning: Lessons from sustainability certification”
  o Moderated Q&A with the panelists
    ▪ Edward Felten, Moderator

10:30 - Coffee Break

11:00 - Workshop Session (Moderated by Miguel Centeno and Victor Galaz)
  • Meet in groups
  • Workshop and outline possible papers and workshop output
  • The format of this session will be tailored to compliment the main points that came about through the panel discussions

12:30 - Lunch
  • A catered lunch will be provided in Wallace Hall, Room 300 after the final session.

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