



# WELCOME!

AUSTIN VAN LOON

SOC 121D: PEOPLE ANALYTICS

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# AGENDA



Please introduce yourselves!



Syllabus, norms, and what to expect



Introduction lecture

# People Analytics:

## Data and Algorithms as Managerial Tools

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### OVERVIEW

What are the promises and pitfalls of using data and algorithms to manage employees in contemporary businesses? Terms such as “big data” and “artificial intelligence” are no longer restricted to computer science departments and tech companies in Silicon Valley; organizations of all kinds from all over the world are trying to harness the power of contemporary data analytics tools to accomplish their goals. In most businesses today, the question is not so much *if* such tools should be used but *how*. One increasingly prominent application is people analytics—the use of data and algorithms to help manage an organization’s human resources: hire the right people, promote a particular organizational culture, and optimize employee performance. In this class, we will explore how data and algorithms can be used by managers and the different practical and ethical consequences of doing so.

Tackling these questions requires that we think deeply about economic organizations in a broad sense. What is the purpose of a business? What makes a “good” or “bad” employee? What is the role of personal values in managing others? In pondering these we’ll consider especially the sociological perspective on human organization and inequality. However, to fully address these questions we must also have some familiarity with the tools being used. Instead of focusing on the statistical or computational foundations of these methods, we’ll work to build students’ intuitive understanding and ability to consume summaries of their applications in a thoughtful way. What does it *mean* if employee gender predicts performance?



+ Code + Text

Connect

Editing



## Paper Grade Calculator



This notebook creates a graph that shows students what their final paper grade would be given how many methods modules they complete and what initial grade their paper receives.



```
'''  
Use code from matplotlib, which is an open-source  
library that helps make pretty good-looking graphs  
very easily  
'''  
import matplotlib.pyplot as plt
```

```
[ ] # Make a list (called "paper_scores") of all possible final paper scores  
paper_scores = [float(i) for i in range(101)]  
  
# Calculate the final paper grade for each possible paper grade if...  
  
# ...You completed one methods module (i.e. your baseline grade is 30%)  
final_scores_a = [30 + (0.7*i) for i in paper_scores]  
  
# ...You completed two methods modules (i.e. your baseline grade is 60%)  
final_scores_b = [60 + (0.4*i) for i in paper_scores]
```

```
[ ] # Plot the final scores against the paper scores if you completed...  
  
# ...No methods modules  
plt.plot(paper_scores, paper_scores, label="No methods modules")  
  
# ...One methods module  
plt.plot(paper_scores, final_scores_a, label="1 methods module")  
  
# ...Two methods module  
plt.plot(paper_scores, final_scores_b, label="2 methods modules")
```



What did you think of the following reading: Coase, R.H. 1937. "The Nature of the Firm"?

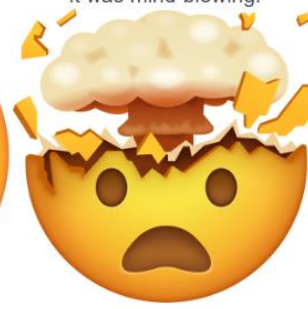
It was terrible. I hated it.



It was alright.



It was mind-blowing!



Any other thoughts you'd like to share about this reading?



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An aerial, high-angle photograph of a massive, dense crowd of people. The individuals are packed closely together, filling the entire frame. They are wearing a variety of colorful clothing, including t-shirts, hats, and dresses. The perspective is from directly above, looking down on the sea of people. The lighting is bright, suggesting a sunny day outdoors.

# ORGANIZATIONS HAVE PEOPLE PROBLEMS



An aerial photograph of a massive, dense crowd of people, likely at a large outdoor event or festival. The people are packed closely together, filling the entire frame. They are wearing various colorful clothing, and the overall scene is vibrant and busy.

# ORGANIZATIONS HAVE PEOPLE PROBLEMS

Labor is a major  
business expense



An aerial photograph of a massive, dense crowd of people, likely at a festival or public gathering. The people are packed closely together, filling the entire frame. They are wearing various colorful clothing, and the overall scene is vibrant and chaotic. The perspective is from directly above, looking down on the sea of people.

# ORGANIZATIONS HAVE PEOPLE PROBLEMS

Labor is a major  
business expense

Productivity of  
employees is  
variable, contingent,  
and mysterious



An aerial photograph of a massive, dense crowd of people, likely at a festival or public event. The crowd is composed of individuals of various ages and ethnicities, wearing colorful clothing. The perspective is from directly above, looking down on the sea of people.

# ORGANIZATIONS HAVE PEOPLE PROBLEMS

Labor is a major  
business expense

Productivity of  
employees is  
variable, contingent,  
and mysterious

Employees are  
demanding more  
from their  
organizations



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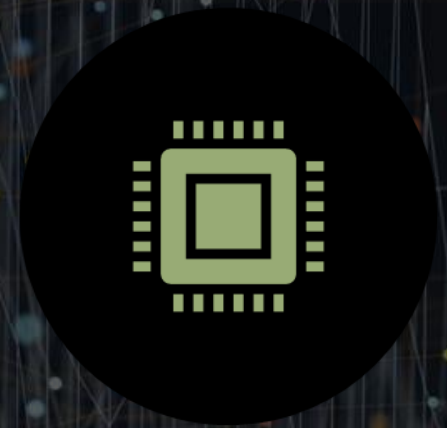
## TAYLORISM AND SCIENTIFIC MANAGEMENT



# THE AGE OF ANALYTICS

The background of the image is a dark, textured field filled with a complex network of thin, light-colored lines. These lines form a dense, interconnected web that resembles a data network or a molecular structure. Scattered throughout this network are numerous small, semi-transparent dots in various colors, including blue, yellow, orange, and white. The overall effect is one of a vast, intricate, and dynamic system, suggesting the complexity and interconnectedness of modern data analytics.

# THE AGE OF ANALYTICS



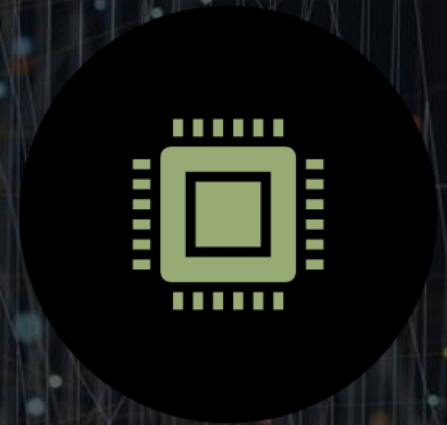
INCREASED AVAILABILITY OF  
COMPUTATIONAL RESOURCES,  
ANALYSIS SOFTWARE, AND  
SPECIALIZED KNOWLEDGE



# THE AGE OF ANALYTICS



DATA-DRIVEN EPISTEMOLOGY  
IS ATTRACTIVE TO BUSINESSES  
(PROFITABILITY AND  
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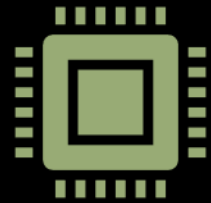
# THE AGE OF ANALYTICS



“AI IS THE NEW ELECTRICITY!”  
(ANDREW NG, 2016)—NOT A  
QUESTION OF “IF” BUT  
“WHEN” AND “HOW”



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IS ATTRACTIVE TO BUSINESSES  
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# ENTER: PEOPLE ANALYTICS

*“My sense is that people appreciate that this is a very important function, but it hasn't been approached in a very sophisticated way... All of sudden, they realize you can use all these tools... for hiring people, for compensating people. And what's better than that, given how important those things are to an organization?”*

**Cade Massey, PhD**

Faculty Director, Wharton People Analytics

# ENTER: PEOPLE ANALYTICS



*“At Airbnb, People Analytics uses data science to analyze how to best recruit, retain, and develop the global Airbnb team.”*

**Belinda Bennett**

Data Science, People Analytics at Airbnb

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Faculty Director, Wharton People Analytics



# ENTER: PEOPLE ANALYTICS



*“At Google, we strive for all people decisions to be informed by data and analytics.”*

**Kathryn Dekas**

People Analytics Manager, Google



*“At Airbnb, People Analytics uses data science to analyze how to best recruit, retain, and develop the global Airbnb team.”*

**Belinda Bennett**

Data Science, People Analytics at Airbnb

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# THE THREE PERSPECTIVES OF THIS CLASS

**Data Scientist**

**Ethicist**

**Organizational Scholar**



# THE THREE PERSPECTIVES OF THIS CLASS

## Data Scientist

- **People analytics** is an approach to solving problems

## Ethicist

- **People analytics** is a set of decisions that impacts peoples' lives

## Organizational Scholar

- **People analytics** is a set of organizational practices that changes how business is done





# THE THREE PERSPECTIVES OF THIS CLASS

## Data Scientist

- **People analytics** is an approach to solving problems
- **Understand** how contemporary approaches to data analytics works

## Ethicist

- **People analytics** is a set of decisions that impacts peoples' lives
- **Understand** social problems and the societal consequences of organizations' decisions

## Organizational Scholar

- **People analytics** is a set of organizational practices that changes how business is done
- **Understand** the organizational setting holistically and analytically

# THE THREE PERSPECTIVES OF THIS CLASS

## Data Scientist

- **People analytics** is an approach to solving problems
- **Understand** how contemporary approaches to data analytics works
- **Optimize** organizational practices with data and prediction

## Ethicist

- **People analytics** is a set of decisions that impacts peoples' lives
- **Understand** social problems and the societal consequences of organizations' decisions
- **Consider** the unintended consequences of organizational practices

## Organizational Scholar

- **People analytics** is a set of organizational practices that changes how business is done
- **Understand** the organizational setting holistically and analytically
- **Contextualize** specific practices and trade-offs within the organizational and its environment

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# THANK YOU!

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