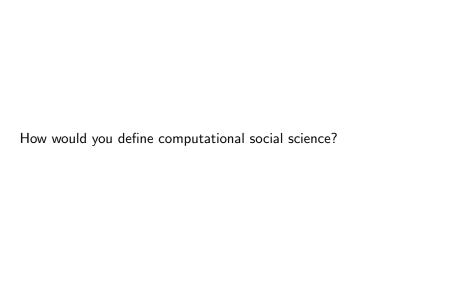
Introduction to Computational Social Science

lan Lundberg¹

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¹Assistant Professor, Information Science, Cornell, ilundberg@cornell.edu



How computing looked in the 1950s



Source: NASA

How computing looked in the 1980s



Source: Wikimedia

How computing looks today



Source: Apple

How computing looks today



Ian Lundberg

Can you write a poem about the Summer Institute in Computational Social Science at UCLA?



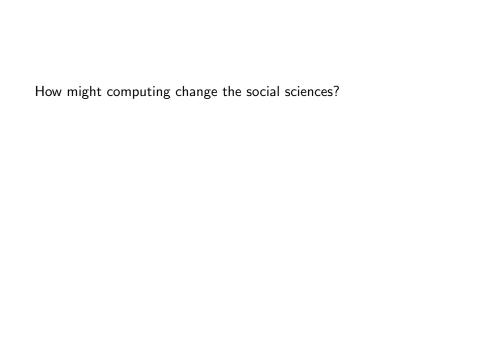
ChatGPT



Of course! Here's a poem about the Summer Institute in Computational Social Science at UCLA:

In sunny UCLA's embrace,
Where minds converge in shared space,
Computational marvels unfold,
At the Institute, stories untold.

Source: OpenAI



▶ new sources of data

new sources of data

► digital exhaust

- new sources of data
 - ► digital exhaust
 - ► text as data

- ▶ new sources of data
 - ► digital exhaust
 - ► text as data
 - ► online surveys

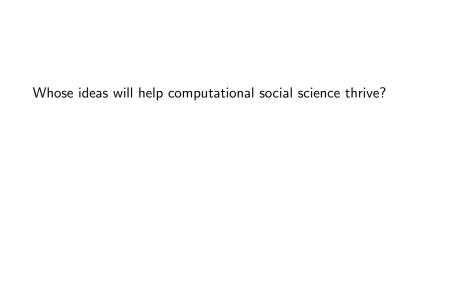
- ► new sources of data
 - digital exhaust
 - text as data
 - ► online surveys
 - ► online experiments

- ► new sources of data
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 - prediction with semi- and nonparametric models

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 - ▶ prediction with semi- and nonparametric models simulation



Whose ideas will help computational social science thrive?	
Applied statisticians	

Whose ideas will help computational social science thrive?	
Applied statisticians, computer scientists	

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Applied statisticians, computer scientists, survey methodologists

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psychologists, demographers, sociologists, ethnographers, political scientists, economists, policymakers, corporate leaders, community

Applied statisticians, computer scientists, survey methodologists,

leaders

Whose ideas will help computational social science thrive?	

psychologists, demographers, sociologists, ethnographers, political scientists, economists, policymakers, corporate leaders, community

Applied statisticians, computer scientists, survey methodologists,

leaders, ethics experts

Whose ideas v	will help comp	utational socia	al science thrive?	

Applied statisticians, computer scientists, survey methodologists, psychologists, demographers, sociologists, ethnographers, political scientists, economists, policymakers, corporate leaders, community

leaders, ethics experts, and more

Whose ideas will help computational social science thrive?

Applied statisticians, computer scientists, survey methodologists, psychologists, demographers, sociologists, ethnographers, political scientists, economists, policymakers, corporate leaders, community leaders, ethics experts, and more

Computational social science benefits from **everyone's ideas**

Perspectives that have shaped my thinking

- ► Athey, S. & Imbens, G. (2018). Machine Learning and Econometrics. 2018 AEA Continuing Education Webcast. (Scroll down on website). See also review articles.
- ► Efron, B., & Hastie, T. (2016). Computer age statistical inference: Algorithms, evidence, and data science. Cambridge University Press.
- ► Groves, R. M. (2011). Three eras of survey research. Public Opinion Quarterly, 75(5), 861-871.
- ► Salganik, M. J. (2019). Bit by bit: Social research in the digital age. Princeton University Press.
- ► Grimmer, J., Roberts, M. E., & Stewart, B. M. (2022). Text as data: A new framework for machine learning and the social sciences. Princeton University Press.