

[View this email in your browser](#)

Can Large Language Models Transform Computational Social Science?

A CCSS newsletter | JULY 2023

In this newsletter...

Tool of the Month:

[BLOOM](#) - The World's Largest Open Multilingual Language Model

LLMs for Teaching and Assessment

Research highlight:

[Out of One, Many: Using Language Models to Simulate Human Samples](#)
The ChatGPT Effect

LLMs for Research

Building Networks:

[CAIDA](#): UBC's Center for Artificial Intelligence Decision-making and Action

Democratizing AI

Tool of the Month: BLOOM - The World's Largest Open Multilingual Language Model

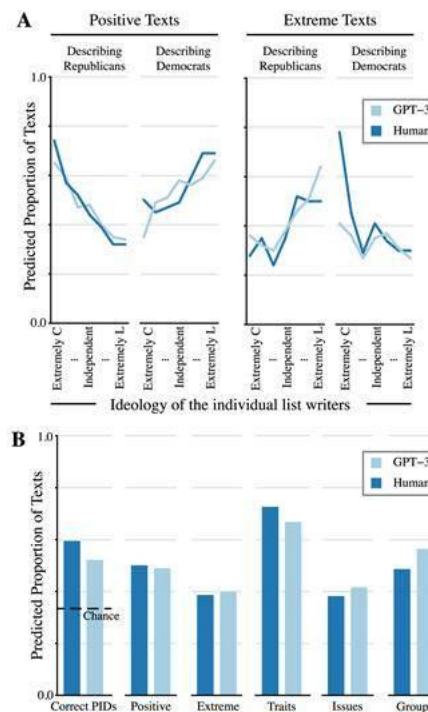


BLOOM is the first multilingual LLM trained in complete transparency \97 the result of the largest collaboration of AI researchers ever involved in a single research project. Researchers can now download, run and study BLOOM, and \97 since it's embedded in the Hugging Face ecosystem \97 any individual or institution who agrees to the terms of the model\92s Responsible AI License can use and build upon the model on a local machine or on a cloud provider.

Research Highlight: \93Out of One, Many: Using Language Models to Simulate Human Samples\94

Language models like GPT-3 can be studied as proxies for specific human subpopulations in social science research. The study shows that GPT-3's "algorithmic bias" is fine-grained and demographically correlated. By conditioning the model on real human backstories, it accurately emulates response distributions, providing nuanced insights into human attitudes and society. Language models with high algorithmic fidelity offer a powerful tool for understanding humans across disciplines.

Argyle, Lisa P., Ethan C. Busby, Nancy Fulda, Joshua R. Gubler, Christopher Rytting, and David Wingate. 2023. \93Out of One, Many: Using Language Models to Simulate Human Samples.\94 *Political Analysis* 31(3), 337-351.



[FIND OUT MORE](#)

Building Networks: CAIDA: UBC\92s Center for Artificial Intelligence Decision-making and Action

CAIDA is UBC's leading AI research organization comprising over 100 professors and research associates from diverse departments. Their focus is on developing and applying AI systems for decision-making, leveraging core technologies like machine learning. As part of the Institute for Computing, Information and Cognitive Systems (ICICS), CAIDA plays a crucial role in interdisciplinary AI research at UBC.



[FIND OUT MORE](#)

Centre Updates:

Generative AI, word and image embeddings, and Large Language Models (LLMs) - the technologies responsible for tools such as ChatGPT and Stable Diffusion - are taking the world by storm. But what are they? What can they be used for, both in everyday life and for research in the social sciences? What are the legal and ethical issues involved in using large amounts of social data, often without permission from content creators? What are the social benefits and potential harms that might result from these technologies, and what might we do to ensure they are used for the social good? The "Generative AI and Democracy" symposium, a collaborative initiative between the Centre for Computational Social Science, the Centre for the Study of Democratic Institutions, and other organizations on campus and planned for Fall 2023, will bring together experts, researchers, and practitioners to explore these questions and more, with an aim to equip students and faculty with tools to understand and use this new generation of machine learning and AI technologies effectively, responsibly, and for the social good.

[FIND OUT MORE](#)

Large Language Models



The ChatGPT Effect: Can Large Language Models Transform Computational Social Science?

ChatGPT has captured the world's imagination, changing perceptions of what is possible in the realm of artificial intelligence. Developed by OpenAI, the ability of ChatGPT to engage in natural and dynamic conversations has sparked widespread intrigue. While chat-based AI/ML platforms have long existed (see, for example, the extremely popular AI system [XiaoIce](#)), the mainstream discussion around ChatGPT feels different. In higher education, faculty, graduate students, and undergraduate students who, prior to ChatGPT's popularity spike, had not thought much (if at all) about language models (large or small), are now grappling with this technology and considering what it means for their own futures, and the future of society.



LLMs for Teaching and Assessment

UBC's Centre for Teaching, Learning, and Technology has compiled an amazing, and amazingly comprehensive, [set of resources around ChatGPT and generative AI](#), focused in particular on what this technology means for classroom assessment. It's well worth your time to explore their website, [including their collection of resources that go deeper into how Large Language Models work](#).

LLMs for Research

Computational social scientists are having a different, but related, conversation. The potential for LLMs to enhance social science research is vast, from text annotation to social simulations and beyond.

A working paper (cite with caution!) by Ziems (Georgia Tech) et al. asks: [\93Can Large Language Models Transform Computational Social Science?\94](#) The answer they arrive at is, of course, maybe. [ChatGPT may be able to annotate text](#) faster, more accurately, and cheaper than human annotators, including crowd workers (a working paper from a team at the University of Zurich, so again, cite with caution). Probabilistic language models can [accurately classify names in large administrative data](#). And, in a truly excellent and innovative paper (and our research highlight this month), Lisa Argyle (BYU) and team [explore the potential for LLMs to simulate human samples](#).

LLMs have the potential to deepen our understanding of the complexities of the social world, and social scientists are just starting to explore their full potential. And of course, the potential for harm is real, and serious.

[UBC has a number of experts on AI](#), including experts on ethics, regulation, and the social impact of AI.

Democratizing AI

Many scholars and communities are additionally working to democratize AI, both its development and access to AI tools. Danica J. Sutherland, an assistant professor of computer science here at UBC, for example, is one of the core organizers of [Queer in AI](#), which promotes community-led participatory design in AI. [Bloom](#) is an [open-source and transparent alternative](#) to models such as OpenAI's GPT series and Google's LaMDA, and is our highlighted tool of the month.

Centre for Computational Social Science
Faculty of Arts

6303 NW Marine Dr

Vancouver, BC Canada V6T 1Z1

Website ccss.arts.ubc.ca



You are receiving the CCSS email because
you've subscribed to this email from CCSS.

VA9 Copyright The University of British Columbia

[Unsubscribe](#)

[Update subscription preferences](#)



THE UNIVERSITY OF BRITISH COLUMBIA