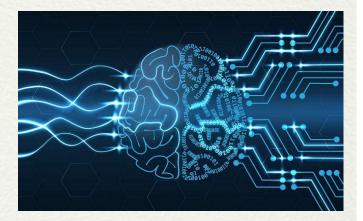A lecture sponsored by the Psychology Department and Campus Auxiliary Services

Cognitive Science Colloquium Series

The Stunning Rise of Large Language Models

Chris Kello
University of California, Merced

Thursday, October 26, 2023, 5:00 pm
Science Hall 181
SUNY New Paltz

Deep learning has its roots in "connectionist" neural network modeling that is foundational to the field of cognitive science. Connectionist models were coined as "deep learning" when they became powerful enough for industrial-strength applications in, most notably, computer vision and speech recognition. Natural language processing was slower at first to benefit from deep learning, but then the transformer neural network, introduced in 2017, advanced sequence processing to a level that few if any researchers could have imagined just fifteen years ago. This talk will briefly review the history of deep learning leading up to the large language models that underlie ChatGPT, including some basics of how they work, and how they are changing cognitive science and the world.

Dr. Chris Kello has been a Professor of Cognitive Science at UC Merced since 2008, where he also served for ten years as Associate Dean and Interim Dean of Graduate Studies. He received his Bachelor's degree in Cognitive Science (AI concentration) from the University of Rochester in 1990 and Ph.D. from UC Santa Cruz in 1996. He worked on connectionist models as a Postdoctoral Researcher in the Center for the Neural Basis of Cognition at Carnegie Mellon University, and served as Director of the Perception, Action, and Cognition program at the National Science Foundation during his first faculty appointment at George Mason University. He has over 100 publications on speech, language, and search processes in human cognition, and his research has been supported by several foundations and federal agencies, as well as IBM, Google, and Accenture Labs.

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