

FEBRUARY 23, 2016 / 7:00 PM

SEVENTH ANNUAL ARNOLD FAMILY LECTURE

Linguistics, Statistics, and Artificial Intelligence in the Big Data Era

Lillian Lee, Cornell University

Science fiction promises that someday we will have machines that talk to us. With Siri on the iPhone and Watson beating human champions at Jeopardy, is that future finally here? Not yet because getting computers to truly understand language is hard, even though most 2-year-olds manage to do it as a matter of course. This lecture will introduce the science behind language technologies - including the central role of probability and statistics - and illustrate why understanding human language is still such a difficult problem.



"I'm sorry, Dave.
I'm afraid I
can't do that."

HAL 9000 COMPUTER FROM
2001: A SPACE ODYSSEY

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Modeling Tsunamis and Other Geohazards

Randy LeVeque,
University of Washington

Geophysical hazards such as tsunamis, storm surges, debris flows, and landslides pose a significant risk to a large fraction of the world's population. Mathematical models and computer simulations of these hazards are critical in developing a better understanding of past events, both recent and pre-historic. They are also used to assess hazards, issue real-time warnings, and help communities prepare—despite the uncertainties surrounding potential future disasters. This lecture will explore some of the ways that mathematics plays an important role in the development of models, software, and probabilistic hazard assessment.



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Linguistics, Statistics, and Artificial Intelligence in the Big Data Era

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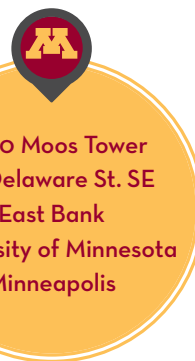
Lillian Lee holds a Ph.D. in computer science from Harvard University and is a professor in the departments of computer science and information science at Cornell University. Her research interests currently focus on the connections between natural language processing and social interaction, but also include computational social science, machine learning, and artificial intelligence. She was named an Association for the Advancement of Artificial Intelligence Fellow in 2013, and her group's work has been covered in *The New York Times*, NPR's *All Things Considered*, and NBC's *The Today Show*.

Modeling Tsunamis and Other Geohazards

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Randy LeVeque holds a Ph.D. in computer science from Stanford University and is a professor of applied mathematics at the University of Washington. He is also an adjunct professor in the departments of mathematics and earth & space sciences, as well as holding multiple fellowships with the UW CoMotion Presidential Innovation program, the eScience Institute, the Society for Industrial and Applied Mathematics, and the American Mathematical Society. His research interests include the development and application of numerical methods and software for wave propagation problems. LeVeque started the Clawpack open source software project in 1994 and since 2004 has been heavily involved in developing and using the GeoClaw branch for tsunami modeling and hazard assessment.



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