



TEXAS A&M  
Institute of  
Data Science

# Texas A&M Institute of Data Science Seminar Series

## Statistical Learning in Operations: The Interplay between Online and Offline Learning



Traditionally, statistical learning is focused on either (i) online learning where data is generated online according to some unknown model; or (ii) offline learning where the entire data is available at the beginning of the process. This talk shows that combining both approaches can accelerate learning. First, the speaker shows how difficult online learning problems can be reduced to well-understood offline regression problems. Second, the speaker shows the impact of pre-existing offline data on online learning and characterizes conditions under which offline data helps (does not help) improve online learning. The impact of the new idea is demonstrated in the context of recommendation systems, multiclass classification problems and dynamic pricing.

### David Simchi-Levi, Ph.D.

Professor of Engineering Systems  
Head of the MIT Data Science Lab  
Massachusetts Institute of Technology

**Date:** Monday, Oct 04, 2021

**Time:** 1:50 – 2:40 p.m. US Central Time

**Zoom Meeting ID:** 998 4499 3279

**Passcode:** 724615

**Faculty host:** Yu Ding, TAMIDS

### Biography

Professor David Simchi-Levi is a Professor of Engineering Systems at MIT and serves as the head of the MIT Data Science Lab. He is considered one of the premier thought leaders in supply chain management and business analytics. Professor Simchi-Levi is the current Editor-in-Chief of Management Science, one of the two flagship journals of INFORMS. He served as the Editor-in-Chief for Operations Research (2006-2012), the other flagship journal of INFORMS and for Naval Research Logistics (2003-2005). In 2020, he was awarded the prestigious INFORMS Impact Prize for playing a leading role in developing and disseminating a new highly impactful paradigm for the identification and mitigation of risks in global supply chains. He is an INFORMS Fellow and MSOM Distinguished Fellow and the recipient of the 2020 INFORMS Koopman Award given to an outstanding publication in military operations research; Ford Motor Company 2015 Engineering Excellence Award; 2014 INFORMS Daniel H. Wagner Prize for Excellence in Operations Research Practice; 2014 INFORMS Revenue Management and Pricing Section Practice Award; and 2009 INFORMS Revenue Management and Pricing Section Prize. He was the founder of LogicTools which provided software solutions and professional services for supply chain optimization. LogicTools became part of IBM in 2009. In 2012 he co-founded OPS Rules, an operations analytics consulting company. The company became part of Accenture in 2016. In 2014, he co-founded Opalytics, a cloud analytics platform company focusing on operations and supply chain decisions. The company became part of the Accenture Applied Intelligence in 2018.

You can also click this link to join the seminar <https://tamu.zoom.us/j/99844993279?pwd=TkJodWFVRURyMmkwakl4SWZGeVJTQT09>



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For more information about TAMIDS seminar series, please contact Ms. Jennifer South at [jsouth@tamu.edu](mailto:jsouth@tamu.edu)