

# ECE SEMINAR

Department of Electrical and Computer Engineering, University of Miami

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East Lansing, Michigan

### DEEP LEARNING ON GRAPHS: CHALLENGES AND OPPORTUNITIES

2:00 – 3:00 PM, Friday, November 19, 2021

<https://miami.zoom.us/j/93624379909?pwd=bHJJWTcvekUyO2JmV3c2dGZScXdCUTog>

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Graphs provide a universal representation of data with numerous types while deep learning has demonstrated immense ability in representation learning. Thus, bridging deep learning with graphs presents astounding opportunities to enable general solutions for a variety of real - world problems. However, traditional deep learning techniques that were disruptive for regular grid data such as images and sequences are not immediately applicable to graph structured data. Therefore, marrying these two areas faces tremendous challenges. In this talk, I will first discuss these opportunities and challenges, then share a series of researches about deep learning on graphs from my group and finally discuss promising research directions. A comprehensive background of this research area can be found in my recent book ([http://cse.msu.edu/~mayao4/dlg\\_book/](http://cse.msu.edu/~mayao4/dlg_book/)).

**Biography** --- Jiliang Tang is an associate professor (assistant professor, 2016-2021) in the computer science and engineering department at Michigan State University. Before that, he was a research scientist in Yahoo Research. He got his PhD from Arizona State University in 2015 under Dr. Huan Liu and MS and BE from Beijing Institute of Technology in 2010 and 2008, respectively. His research interests include social computing, data mining and machine learning and their applications in education. He was the recipient of 2021 IEEE Big Data Security Junior Research Award, 2020 ACM SIGKDD Rising Star Award, 2020 Distinguished Withrow Research Award, 2019 NSF Career Award, and 7 best paper awards (or runner-ups) including WSDM2018 and KDD2016. His dissertation won the 2015 KDD Best Dissertation runner up and Dean's Dissertation Award. He serves as conference organizers (e.g., KDD, SIGIR, WSDM and SDM) and journal editors (e.g., TKDD and ACM Books). He has published his research in highly ranked journals and top conference proceedings, which have received 17,000+ citations with h-index 64 and extensive media coverage.