



Department of Computer Science

Making Deep Interpretable Predictions for Temporal Events

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Stevens Institute of Technology

Hosted by Guiling Wang

Date: Monday, November 8, 2021
Coffee: 2:15 PM – 2:30 PM
Seminar: 2:30 PM – 3:30 PM
Location: GITC 4402 (4th Floor Seminar Lecture Hall)

<https://cs.njit.edu/seminars>

Abstract:

Many human events, such as personal visits to hospitals, flu outbreaks, or protests, are recorded in temporal sequences and exhibit recurring patterns. For instance, in hospital admission records, patients who have been diagnosed with hypertension often later visit the hospital for heart diseases. Predictions of human events using past event patterns are key to many stakeholders in AI-assisted decision making. Interpretable predictive models will significantly improve transparency in these decision-making processes. In this talk, I will present our work on graph neural networks for temporal event prediction in social science and healthcare. Specifically, we integrate multi-form data sources and analyze complex hierarchical features in modeling events. We also design new frameworks that include domain knowledge to guide learning processes to make accurate and interpretable predictions.

Bio:

Yue Ning is an Assistant Professor in the Department of Computer Science at Stevens Institute of Technology and Affiliated faculty at Stevens Institute for Artificial Intelligence (SIAI). She received her PhD in Computer Science and Applications from Virginia Tech. Her research interests are in the general areas of machine learning, data analytics, and graph mining. She focuses on developing predictive methods to capture spatiotemporal, dynamic, and interpretable patterns in large-scale data with applications in computational social science and health informatics. She has published in prestigious journals and conferences including TKDD, KDD, AAI, IJCAI, CIKM, ICWSM, and SDM. Her research is supported by NSF (including CRII award and CAREER award), Nvidia, and Stevens Institute of Technology.