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Title: Efficient Structural Embeddings in Large-scale Networks

Danai Koutra
Assistant Professor in
Computer Science and Engineering
University of Michigan

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Abstract: Networks naturally capture a host of real-world interactions, from social interactions and email communication to web browsing to brain activity. Over the past few years, representation learning over networks has been shown to be successful in a variety of downstream tasks, such as classification, link prediction, and visualization. Most existing approaches seek to learn node representations that capture node proximity. In this talk, I will discuss our recent work on a different class of node representations that aim to preserve the structural similarity between the nodes. I will present the lessons learned from designing efficient structural embedding methods for large-scale heterogeneous data, including ways to overcome the computational challenges and massive storage requirements that many existing techniques face. Throughout the talk, I will discuss applications to professional role discovery, entity resolution, entity linking across data sources, and more.

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Host: Marco Minutoli
Marco.minutoli@pnnl.gov