

## SenSIP Student Seminar Series

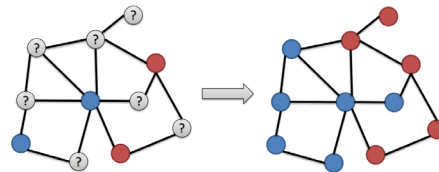
### Graph Representation Learning using Deep Neural Networks

Presenter: Uday Shankar, PhD Student in ECEE

September 11, 2020, 3:00 PM / Zoom: <https://asu.zoom.us/j/98413256524>

#### Abstract

Deep Neural Networks (DNNs) are the main workhorse for many scientific and non-scientific applications. DNNs have enjoyed unprecedented success in the past decade, even surpassing human-level performance in various fields including image and vision, speech processing, and natural language processing. Graph neural networks (GNNs), a generalization of neural networks to graph-structured data have recently gained a lot of prominence due to their expressive power. In this presentation, I will provide an overview of the message passing formalisms in GNNs. I will address some of the inherent challenges and applications of GNNs. Finally, I will conclude with an application of GNNs to human brain connectomes.



#### Biography:



Uday Shankar Shanthamallu is currently a Ph.D. student in electrical engineering at Arizona State University (ASU). He received his Master's degree in electrical engineering from ASU in 2018 and a Bachelor's degree in electronics and communication engineering from the National Institute of Engineering, India, in 2011. His research interests include representation learning for graphs using machine learning and deep learning techniques. He is currently working on building robust graph neural network models to defend against graph adversarial attacks. He has interned with Lawrence Livermore National Laboratory during the summers of 2019 and 2020 where he worked on building predictive models for the human brain connectome. He has also worked on sensor data analytics for anomaly detection while interning at NXP Semiconductors.

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