Knowledge Infused Deep Learning

Abstract: This talk is motivated by the following thesis: Background knowledge is key to intelligent decision making. While deep learning methods have made significant strides over the last few years, they often lack the context in which they operate. Knowledge Graphs (and more generally multi-relational graphs) provide a flexible framework to capture and represent knowledge of various kinds, viz., factual, syntactic, and temporal. In this talk, I shall present an overview of my group’s research on how to build and embed Knowledge Graphs, and how they can be effectively utilized within deep learning systems.

Bio: Partha Talukdar is an Associate Professor in the Department of Computational and Data Sciences (CDS) at the Indian Institute of Science (IISc), Bangalore. He is also the founder of KENOME, an enterprise Knowledge graph company with the mission to help enterprises make sense of unstructured data. Previously, Partha was a Postdoctoral Fellow in the Machine Learning Department at Carnegie Mellon University, working with Tom Mitchell on the NELL project. Partha received his PhD (2010) in CIS from the University of Pennsylvania, working under the supervision of Fernando Pereira, Zack Ives, and Mark Liberman. Partha is broadly interested in Machine Learning, Natural Language Processing, and Cognitive Neuroscience, with particular interest in large-scale learning and inference. Partha is a recipient of IBM Faculty Award, Google’s Focused Research Award, Accenture Open Innovation Award, and Outstanding Paper Award at ACL 2019. He is a co-author of a book on Graph-based Semi-Supervised Learning published by Morgan Claypool Publishers.

Homepage: http://talukdar.net

Sponsored In Part By