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Department of Computer Science

A life of Taxonomy: Construction, Enrichment, and Application

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Hosted by Yannis Koutis

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Abstract: In an era of information explosion, people are inundated with vast amounts of text data (e.g., news articles, social media posts, scientific literature, etc). Taxonomy, which organizes data and knowledge into hierarchical structures, is a powerful tool that unleashes hidden knowledge buried in unstructured text and enables machine intelligence. In today's talk, I will discuss my research that consolidates the power of taxonomy in three areas of investigation: (1) construction, where we extract important concepts and identify essential taxonomic relations from text data without massive human-labeled data, (2) enrichment, where we expand the taxonomy to incorporate new emerging concepts and relations, and (3) application, where we distill knowledge from taxonomies for downstream applications. At the end of this talk, I will slightly touch on my other research projects and present my vision of future research directions.

Bio: Jiaming Shen is a Ph.D. candidate in the Department of Computer Science, University of Illinois at Urbana-Champaign where he works with Prof. Jiawei Han and Prof. Heng Ji. His research, focusing on unleashing hidden knowledge in unstructured text, lies in the intersection of data mining and natural language processing. Specifically, he proposes a data-driven framework to progressively construct, enrich, and apply taxonomies to empower knowledge-centric applications. He has published multiple papers in top-tier venues (e.g., KDD, WebConf, ACL, EMNLP, SIGIR, etc) and collaborated with industrial and governmental research labs (e.g., Microsoft Research, Google Research, Army Research Lab, etc) for technology transitions. Jiaming has been awarded several fellowships and scholarships, including a Brian Totty Graduate Fellowship and a Yunni & Maxine Pao Memorial Fellowship. More information is available on his personal website: https://mickeystroller.github.io/