

## Knowledge Graphs and COVID-19: An Overview

**Abstract** - The COVID-19 pandemic has been truly global and multi-dimensional in scope, with ramifications extending well beyond health. Yet, unlike previous crises, there is hope that timely release of relevant datasets, as well as advances in AI technology, could lead to compressed timescales in finding a vaccine or cure. Despite the huge existing body of academic literature on the coronavirus family, searching through such a corpus, including new research that has emerged in the wake of the crisis, is a daunting task even for experts. Simple keyword search over such corpora is insufficient for experts who want answers to questions that require linking together multiple pieces of information across documents. I will review an innovative AI technology called a knowledge graph (KG) that could be used to fulfill such complex information needs. I will detail the potential for KGs to play an important role in the fight against COVID-19, cover challenges involved, and describe ongoing collaborative implementations of COVID-19 KGs in industry and academia.



**Dr. Mayank Kejriwal**

Research Assistant Professor  
Department of Industrial and Systems  
Engineering, USC  
Research Lead  
Information Sciences Institute (ISI), USC

**SPEAKER BIO** – Mayank Kejriwal is a Research Assistant Professor in the Department of Industrial and Systems Engineering, and a Research Lead at the USC Information Sciences Institute. His research focuses on knowledge graphs (KG), an exciting area of Artificial Intelligence and data analytics research that has found widespread applications in industry (including in e-commerce giants like Amazon, and search providers like Google), academia (health informatics and social sciences) and for social causes (fighting human trafficking and mobilizing resources in the aftermath of crises). He is the author of *Domain-Specific Knowledge Graph Construction*, published by Springer in 2019, and a co-author of an upcoming textbook on KGs (MIT Press, 2021). His work is funded by DARPA, private foundations and corporations.