Graph Neural Networks in AllegroGraph – Video

Enterprises are subscribed to the power of modeling data as a graph and the importance of using Knowledge Graphs for customer 360 and beyond. The ability to explain the results of AI models, and produce consistent results from them, involves modeling real-world events with the adaptive schema consistently provided via Knowledge Graphs.

Probably the most important reason for building Knowledge Graphs has been to answer the age old question: "What is going to happen next?" Given the data, relationships, and timelines we know about a customer, patient, product, etc. ("The Entity of Interest"), how can we confidently predict the most likely next event.

For example, in healthcare, what is the outcome for this patient given the sequence of previous diseases, medications, and procedures. For manufacturers, what is going to require repair next in this aircraft or some other point in the supply chain.

Machine Learning and more recently, Graph Neural Networks (GNNs) have emerged as a mature AI approach used by companies for Knowledge Graph enrichment. GNNs enhance neural network methods by processing graph data through rounds of message passing, as such, the nodes know more about their own features as well as neighbor nodes. This creates an even more accurate representation of the entire graph network.

In this presentation we describe how to use graph embeddings and regular recurrent neural networks to predict events via Graph Neural Networks. We will also demonstrate creating a GNN in the context of a Knowledge Graph for building event predictions.

For more info — https://github.com/franzinc/agraph-examples