

The Power of Cognitive Probability Graphs

Graphs and Artificial Intelligence have long been a focus for Franz Inc. and currently we are collaborating with Montefiore Health System, Intel, Cloudera, and Cisco to improve a patient's ability to understand the probabilities of their future health status. By combining artificial intelligence, semantic technologies, big data, graph databases and dynamic visualizations we are deploying a Cognitive Probability Graph concept as a means to help predict future medical events.

The power of Cognitive Probability Graphs stems from the capability to combine the probability space (statistical patient data) with a knowledge base of comprehensive medical codes and a unified terminology system. Cognitive Probability Graphs are remarkable not just because of the possibilities they engender, but also because of their practicality. The confluence of machine learning, semantics, visual querying, graph databases, and big data not only displays links between objects, but also quantifies the probability of their occurrence.

We believe this approach will be transformative for the healthcare field and we see numerous possibilities that exist across business verticals.

During the presentation we will describe the Cognitive Probability Graph concepts using a distributed graph database on top of Hadoop along with the query language SPARQL to extract feature vectors out of the data, applying R and SPARK ML, and then returning the results for further graph processing.

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