

# The Taxonomic Underpinnings of Cognitive Computing

Dr. Jans Aasman, CEO, Franz Inc. was interviewed and quoted for this article:



Taxonomies are the substrate of nearly each of these aspects of symbolic reasoning, which oftentimes involves knowledge graphs. The standardized vocabularies, definitions, and hierarchies of definitions taxonomies encompass usually directly correlate to the business concepts upon which cognitive computing systems reason.

Additionally, the breadth of use cases taxonomies support for cognitive systems includes mainstays such as enterprise search, text analytics, and linked data deployments, in which different business units—or organizations—are able to seamlessly exchange information with one another for sophisticated interoperability for smart cities, ambient computing, and cross-regional transportation.

In these applications and others “you can fine-tune the abstraction level of your search by using taxonomies,” Franz CEO Jans Aasman indicated. “Those taxonomies also provide you with all the synonyms of what you’re looking for.”

## Cognitive Search

Cognitive search is one of the most universally applicable

cognitive computing functions taxonomies directly enable. As Aasman mentioned, they not only do so by furnishing synonyms of various vocabulary terms throughout the enterprise, but also by assisting with semantic search. The efficacy of semantic search, of course, vastly exceeds that of traditional keyword search and is predicated on understanding the intention of what users are looking for—to a certain extent, regardless of how that intent is expressed.

The cardinal advantage of taxonomies is they incorporate defined vocabularies into what Aasman called “hierarchies of meaning.” For example, a networking company has specific names of products, some of which might be routers, which are examples of hardware. Each of those concepts (product names, routers, and hardware) is a level in a hierarchy of machine understanding. “So, if you ask the database to give me every document that talks about routers, then it will go and look in the taxonomy,” Aasman explained. “It will say, what kind of routers do I have; these are the routers; these are the names that I use for them, and these are the alternative names. Now, let me search through all the documents to find them.”

Read the full article at [AI Time Journal](#).