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Visualizing Ontologies For Knowledge Translation

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My work spans information science, philosophy, and human-computer interaction. My research investigates how users associate and translate knowledge across domains. Part of this work involves creating user interfaces which visualize ontologies, information organization artifacts which describe a scientific field, in dynamic ways. When presented to users these interfaces allow ontologies to be used not just for AI software agents but also for pedagogical tasks related to information retrieval and knowledge generation. Ontologies are hierarchical arrangements of concepts which describe a given field. For instance, the Gene Ontology describes the complete human genome. The Gene Ontology is built on BFO, a top-level ontology which makes it interoperable with other biomedical ontologies. However, for achieving ontology alignment, tools which allow users to make mappings between ontologies are necessary, in order to establish isomorphisms between scientific fields. My work investigates how people make these isomorphisms and how they understand what the mappings mean.