Identification of SHACL Constraints from a Knowledge Graph

Erhard Eibl, Siyabend Sakik, Niels Schneider, Oya Beyan, Nils Lukas
Automatic identification of common patterns in Knowledge Graphs

- Categorize Data
  - Categories: \{predicates\} x \{objects\}
  - Elements fall into their natural categories
  - ex:Banana [rdf:type ex:fruit]
  - ex:Banana [ex:color ex:yellow]

- Compare elements in categories
  - count the occurrences of all other properties
  - every diagnosis is connected to some patient assume it is necessary for a diagnosis to be connected to some patient

- Store these patterns in SHACL shape files
  - verify incoming data in collaborative databases
  - remove humans from quality management