8.1.2024

Research questions:

RQ1: What is an appropriate way to compare extracted SHACL shapes from different versions of a  
graph in a user-friendly way?  
RQ2: What is an appropriate way to explain why certain shapes have been added, removed or changed  
by using information from the QSE algorithm?  
RQ3: Given two versions of a graph (V1 and V2) and the changeset between these versions, what is  
an appropriate way to adapt the QSE algorithm so that it calculates SHACL shapes of V2 by  
using V1 and the changeset?  
RQ4: There might be other algorithms, which extract SHACL shapes from RDF graphs. Given two  
versions of SHACL shapes from two versions of a graph, what is an appropriate way to explain  
why certain shapes have been added, removed or changed by using partial SPARQL queries?

Objectives:

* Establish a broad understanding of the current knowledge base in the area of evolving knowledge graphs, automatic extraction of data quality constraints from knowledge graphs, comparing of SHACL shapes and differences between knowledge graphs
* Identify current research gaps in these areas

Search-Keywords:

“Evolving Knowledge graphs”, “Data quality in knowledge graphs”, “Constraint extraction from knowledge graphs”, “comparing shacl shapes”, “differences between knowledge graphs versions”

Study selection criteria:

* Paper published after 2000
* Paper written in English or German
* Paper is accessible with TU-Vienna Account for free

Only libraries: Google Scholar

Study Exclusion Criteria:

Has nothing to do with my research questions.

Already read during research on my topic area

Study Selection Procedure:

Type in keywords in Google Scholar and read the first 10 results. If the title has something to do with my research questions or the objectives. In the next phase, all abstracts will be read. Based on theses filtered papers, the full papers will be read.