

## **Towards Scalable Exploration of Diagnoses in an Ontology Stream**

Reference:

F. Lecue, "Towards Scalable Exploration of Diagnoses in an Ontology Stream", in 28th Conference on Artificial Intelligence (AAAI 2014), Québec City, Québec, Canada, pages 87-93.

Abstract:

Diagnosis, or the process of identifying the nature and cause of an anomaly in an ontology, has been largely studied by the SemanticWeb community. In the context of ontology stream, diagnosis results are not captured by a unique fixed ontology but numerous time-evolving ontologies. Thus any anomaly can be diagnosed by a large number of different explanations depending on the version and evolution of the ontology. We address the problems of identifying, representing, exploiting and exploring the evolution of diagnoses representations. Our approach consists in a graph-based representation, which aims at (i) efficiently organizing and linking time-evolving diagnoses and (ii) being used for scalable exploration. The experiments have shown scalable diagnoses exploration in the context of real and live data from Dublin City.