



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

- Project n.7
- Name: "Values from text"
- Topic: Annotation semantics, Knowledge extraction
- Mentor: Aldo Gangemi

• Description

- This project aims at understanding the semantics of corpus annotations, using a value annotation as a use case. This is also an exercise in explainable AI by using heuristics
- Firstly, you will load a corpus of sentences annotated with Haidt's value categories
- Secondly, you will extract a sample for your experiment
- Thirdly, you will extract one knowledge graph for each sentence by using the FRED knowledge extractor
- Fourthly, you will run multiple queries/inferential procedures of your choice (or discussed with us) on the graphs – jointly with the annotation – in order to automatically infer the relevant graph pattern that has motivated the annotation
- Suggestion: you may start from one value and a few sentences, and reason as a human to understand which entities (individuals, concepts, frames, relations) are the very reason for the annotation. After a few patterns have been devised intellectually, you can start testing them with queries, and possibly discovering new patterns by manipulating the graph patterns appropriately

- Datasets and tools
- The Social Chemistry corpus:
<https://maxwellforbes.com/social-chemistry/>
- FRED API: <http://wit.istc.cnr.it/stlab-tools/fred/>
- You can use any RDF/SPARQL endpoint such as Fuseki or BlazeGraph to query the graphs, and Protégé or standalone reasoners (HermiT, Pellet) to run some automated reasoning



- Useful tools for all projects (to be completed)
- Protégé: <https://protege.stanford.edu/>
- Pyrml: <https://github.com/anuzzolese/pyrml>
- SILK: <http://silkframework.org/>
- FRED: <http://wit.istc.cnr.it/stlab-tools/fred/>
- SPARQL-Anything:
<https://github.com/SPARQL-Anything/sparql.anything>



• What is the next step?

Create your group and give it a name

Agree on two preferences among the presented projects

they must belong to two different mentors

we want each mentor to have at least one project and not mentor to have more than two

Add your group name, the list of members and your preferences to [1]

There are six projects and we shall have four or five groups

[1]
https://liveunibo-my.sharepoint.com/:x:/g/personal/valentina_presutti_unibo_it/Eb_Tc1z5WehHna8nvpegDRsBpPpH5fUITcsZ2Xh-jLjiPQ?e=M3TcjJ