

Relation Extraction

Relation Extraction

- Process of extracting relational triples from natural language text.
- Triple represents the relation between a couple of entities.

- E.g., (USA, President, Donald Trump)
(Russia, President, Vladimir Putin)

- John Doe was born in England. John is working as a Data Scientist. John also founded ABC Inc. and currently owns a Dodge Hellcat which is a beautiful car.

(John Doe, born in, England)

(John, working, Data Scientist)

(John, founded, ABC Inc.)

(John, owns, Dodge Hellcat)

Types of Relation Extraction

1. Rule-based Relation Extraction:

- a. Uses hand-crafted patterns
- b. Can be made according to particular domains
- c. Very high precision
- d. A lot of Manual Labor
- e. Low Recall

2. Supervised Relation Extraction:

- a. Consider two entities E1 and E2
- b. Detect if a relation exists between E1 and E2
- c. The task becomes of Relation Detection
- d. Needs a lot of labelled data
- e. Expensive to label data

Types of Relation Extraction

3. Semi-Supervised Relation Extraction:

- a. Used when don't have enough labelled data
- b. Starts with a set of seed tuples
- c. Extract relations from text
- d. Iterative Process
- e. Higher Recall than Rule-based Relation Extraction

4. Distantly Supervised Relation Extraction:

- a. Combines the idea of seed with relation detection
- b. Uses a set of tuples from existing knowledge bases
- c. Checks if entities are present in a sentence
- d. Extracts features and trains a classifier
- e. Allows to work with the large labelled dataset
- f. Produces noisy annotation and restricted to the knowledge base

Types of Relation Extraction

- 5. Unsupervised Relation Extraction:
 - a. Also known as Open Relation Extraction
 - b. No training data & pre-defined rules required
 - c. Extract new relations from the web





Thank You