1. Record Nr. UNINA9910590079103321 Autore Niklaus Christina **Titolo** From Complex Sentences to a Formal Semantic Representation using Syntactic Text Simplification and Open Information Extraction / / by Christina Niklaus Wiesbaden:,: Springer Fachmedien Wiesbaden:,: Imprint: Springer Pubbl/distr/stampa Vieweg, , 2022 9783658386979 **ISBN** 3658386975 Edizione [1st ed. 2022.] Descrizione fisica 1 online resource (0 pages) Disciplina 410.285 Soggetti Computational linguistics Natural language processing (Computer science) Programming languages (Electronic computers) **Computational Linguistics** Natural Language Processing (NLP) Programming Language Tractament del llenguatge natural (Informàtica) Tractament de textos Lingüística computacional Llibres electrònics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Monografia Livello bibliografico Nota di bibliografia Includes bibliographical references. Background -- Discourse-Aware Sentence Splitting -- Open Nota di contenuto

Information Extraction -- Evaluation -- Conclusion.

Sommario/riassunto This work presents a discourse-aware Text Simplification approach that

splits and rephrases complex English sentences within the semantic context in which they occur. Based on a linguistically grounded transformation stage, complex sentences are transformed into shorter utterances with a simple canonical structure that can be easily analyzed by downstream applications. To avoid breaking down the input into a disjointed sequence of statements that is difficult to interpret, the

author incorporates the semantic context between the split

propositions in the form of hierarchical structures and semantic relationships, thus generating a novel representation of complex assertions that puts a semantic layer on top of the simplified sentences. In a second step, she leverages the semantic hierarchy of minimal propositions to improve the performance of Open IE frameworks. She shows that such systems benefit in two dimensions. First, the canonical structure of the simplified sentences facilitates the extraction of relational tuples, leading to an improved precision and recall of the extracted relations. Second, the semantic hierarchy can be leveraged to enrich the output of existing Open IE approaches with additional meta-information, resulting in a novel lightweight semantic representation for complex text data in the form of normalized and context-preserving relational tuples. About the author Christina Niklaus is an Assistant Professor in Computer Science at the University of St.Gallen with a focus on Data Science and NLP.