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	Autore	Gomez-Perez Jose Manuel
	Titolo	A Practical Guide to Hybrid Natural Language Processing : Combining Neural Models and Knowledge Graphs for NLP / / by Jose Manuel Gomez-Perez, Ronald Denaux, Andres Garcia-Silva
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		Natural language processing (Computer science)
		Artificial Intelligence
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		Natural Language Processing (NLP)
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	Nota di contenuto	Part I: Preliminaries and Building Blocks -- Hybrid Natural Language Processing: An Introduction -- Word, Sense, and Graph Embeddings -- UnderstandingWord Embeddings and Language Models -- Capturing Meaning from Text asWord Embeddings -- Capturing Knowledge Graph Embeddings -- Part II: Combining Neural Architectures and Knowledge Graphs -- Building Hybrid Representations from Text Corpora, Knowledge Graphs, and Language Models -- Quality Evaluation -- Capturing Lexical, Grammatical, and Semantic Information with Vecsigrafo -- Aligning Embedding Spaces and Applications for Knowledge Graphs -- Part III: Applications -- A Hybrid Approach to Disinformation Analysis -- Jointly Learning Text and Visual Information in the Scientific Domain -- Looking into the Future of Natural Language Processing.
	Sommario/riassunto	This book provides readers with a practical guide to the principles of hybrid approaches to natural language processing (NLP) involving a combination of neural methods and knowledge graphs. To this end, it

first introduces the main building blocks and then describes how they can be integrated to support the effective implementation of real-world NLP applications. To illustrate the ideas described, the book also includes a comprehensive set of experiments and exercises involving different algorithms over a selection of domains and corpora in various NLP tasks. Throughout, the authors show how to leverage complementary representations stemming from the analysis of unstructured text corpora as well as the entities and relations described explicitly in a knowledge graph, how to integrate such representations, and how to use the resulting features to effectively solve NLP tasks in a range of domains. In addition, the book offers access to executable code with examples, exercises and real-world applications in key domains, like disinformation analysis and machine reading comprehension of scientific literature. All the examples and exercises proposed in the book are available as executable Jupyter notebooks in a GitHub repository. They are all ready to be run on Google Colaboratory or, if preferred, in a local environment. A valuable resource for anyone interested in the interplay between neural and knowledge-based approaches to NLP, this book is a useful guide for readers with a background in structured knowledge representations as well as those whose main approach to AI is fundamentally based on logic. Further, it will appeal to those whose main background is in the areas of machine and deep learning who are looking for ways to leverage structured knowledge bases to optimize results along the NLP downstream.