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Nota di contenuto	Part I – Concepts and Technology -- Chapter 1. Introduction to Natural Language Processing -- Chapter 2. N-gram Language Model -- Chapter 3. Part-of-Speech Tagging -- Chapter 4. Syntax and Parsing -- Chapter 5. Meaning Representation -- Chapter 6. Semantic Analysis -- Chapter 7. Pragmatic Analysis and Discourse -- Chapter 8. Transfer Learning and Transformer Technology -- Chapter 9. Major Natural Language Processing Applications -- Part II –Natural Language Processing Workshops with Python Implementation in 14 Hours -- Chapter 10. Workshop#1 – Basics of Natural Language Toolkit (Hour 1-2) -- Chapter 11. Workshop#2 – N-grams Modeling with Natural Language Toolkit (Hour 3-4) -- Chapter 12. Workshop#3 – Part-of-

Speech Tagging using Natural Language Toolkit (Hour 5-6) -- Chapter 13. Workshop#4 – Semantic Analysis and Word Vectors using spaCy (Hour 7-8) -- Chapter 14. Workshop#5 – Sentiment Analysis and Text Classification (Hour 9-10) -- Chapter 15. Workshop#6 – Transformers with spaCy and TensorFlow (Hour11-12) -- Chapter 16. Workshop#7 – Building Chatbot with TensorFlow and Transformer Technology (Hour 13-14).

Sommario/riassunto

This textbook presents an up-to-date and comprehensive overview of Natural Language Processing (NLP), from basic concepts to core algorithms and key applications. Further, it contains seven step-by-step NLP workshops (total length: 14 hours) offering hands-on practice with essential Python tools like NLTK, spaCy, TensorFlow Kera, Transformer and BERT. The objective of this book is to provide readers with a fundamental grasp of NLP and its core technologies, and to enable them to build their own NLP applications (e.g. Chatbot systems) using Python-based NLP tools. It is both a textbook and NLP tool-book intended for the following readers: undergraduate students from various disciplines who want to learn NLP; lecturers and tutors who want to teach courses or tutorials for undergraduate/graduate students on NLP and related AI topics; and readers with various backgrounds who want to learn NLP, and more importantly, to build workable NLP applications after completing its 14 hours of Python-based workshops.