1. Record Nr. UNINA9910337849403321

Autore	Galitsky Boris
Titolo	Developing Enterprise Chatbots : Learning Linguistic Structures / / by Boris Galitsky
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-030-04299-5
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (566 pages)
Disciplina	006.3 006.35
Soggetti	Artificial intelligence Computational linguistics Software engineering Artificial Intelligence Computational Linguistics Software Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction to Chatbots -- Social Chatbots and Development Platforms -- Chatbot Components and Architectures -- Providing Natural Language Access to a Database -- Chatbot Relevance at Syntactic Level -- Semantic Skeleton-based Search for Question and Answering Chatbots -- Relevance at the Level of Paragraph: Parse Thickets -- Chatbot Thesauri -- Content Processing Pipeline -- Achieving Rhetoric Agreement in a Conversation -- Discourse-level Dialogue Management, - Chatbots Providing and Accepting Argumentation. .
Sommario/riassunto	A chatbot is expected to be capable of supporting a cohesive and coherent conversation and be knowledgeable, which makes it one of the most complex intelligent systems being designed nowadays. Designers have to learn to combine intuitive, explainable language understanding and reasoning approaches with high-performance statistical and deep learning technologies. Today, there are two popular paradigms for chatbot construction: 1. Build a bot platform with universal NLP and ML capabilities so that a bot developer for a

particular enterprise, not being an expert, can populate it with training data; 2. Accumulate a huge set of training dialogue data, feed it to a deep learning network and expect the trained chatbot to automatically learn “how to chat”. Although these two approaches are reported to imitate some intelligent dialogues, both of them are unsuitable for enterprise chatbots, being unreliable and too brittle. The latter approach is based on a belief that some learning miracle will happen and a chatbot will start functioning without a thorough feature and domain engineering by an expert and interpretable dialogue management algorithms. Enterprise high-performance chatbots with extensive domain knowledge require a mix of statistical, inductive, deep machine learning and learning from the web, syntactic, semantic and discourse NLP, ontology-based reasoning and a state machine to control a dialogue. This book will provide a comprehensive source of algorithms and architectures for building chatbots for various domains based on the recent trends in computational linguistics and machine learning. The foci of this book are applications of discourse analysis in text relevant assessment, dialogue management and content generation, which help to overcome the limitations of platform-based and data driven-based approaches. Supplementary material and code is available at https://github.com/bgalitsky/relevance-based-on-parse-trees.