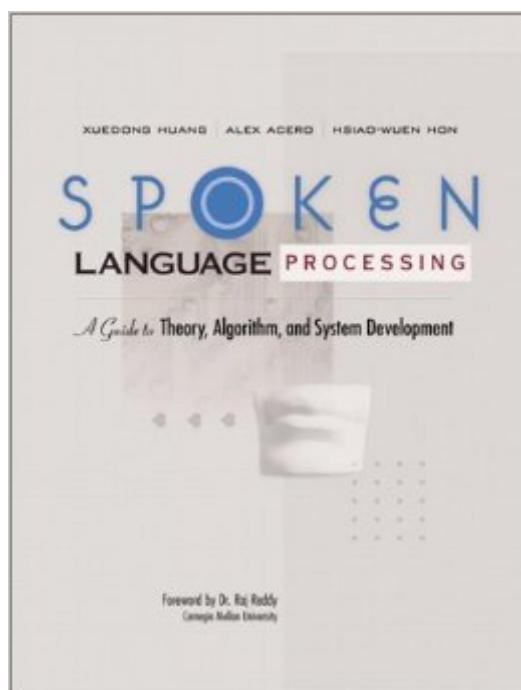# Spoken Language Processing: A Guide To Theory, Algorithm And System Development

Synopsis

*New advances in spoken language processing: theory and practice *In-depth coverage of speech processing, speech recognition, speech synthesis, spoken language understanding, and speech interface design *Many case studies from state-of-the-art systems, including examples from Microsofts advanced research labs Spoken Language Processing draws on the latest advances and techniques from multiple fields: computer science, electrical engineering, acoustics, linguistics, mathematics, psychology, and beyond. Starting with the fundamentals, it presents all this and more: *Essential background on speech production and perception, probability and information theory, and pattern recognition *Extracting information from the speech signal: useful representations and practical compression solutions *Modern speech recognition techniques: hidden Markov models, acoustic and language modeling, improving resistance to environmental noises, search algorithms, and large vocabulary speech recognition *Text-to-speech: analyzing documents, pitch and duration controls; trainable synthesis, and more *Spoken language understanding: dialog management, spoken language applications, and multimodal interfaces. T

Book Information

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Customer Reviews

This book is a comprehensive overview of most of the major topics associated with speech processing. Divided into five main sections, the book is well structured with a clear division of concerns. The title, "Spoken Language Processing", may be misleading to some as language

processing topics only accounts for one section of the book.The first two sections cover the fundamental theories that should be understood before embarking in-depth into a study of speech processing. This may seem an obvious approach but many texts do not follow this pattern making their use as reference tomes limited. Separating background theory from its use is also useful in that it allows a rigorous approach to its description. Too often texts give a hurried imprecise overview of theories used before launching into a long and complex use of the theory; losing the reader instantly in a quagmire of formulae.The first two sections of the book deals with background material, material that the reader should at least understand the key concepts of. The first section concentrates on speech in general (including production and perception), probability and statistics, and pattern classification. These last two topics mentioned are both important parts of the book and are dealt with in their own chapters. Both are well written with the right amount of explanation and background. Much of the remainder of the book expects at least some familiarity with the material presented here. These chapters, like all chapters in the book finish with a section entitled, "Historical Perspective and Further Reading". The inclusion of recommended further reading, in addition to the vast number of references appearing in each chapter, make the book as a whole a very good starting point for any work in speech processing.

Spoken Language Processing: A Guide to Theory, Algorithm and System Development Deep Learning: Natural Language Processing in Python with Word2Vec: Word2Vec and Word Embeddings in Python and Theano (Deep Learning and Natural Language Processing Book 1) Speech and Language Processing: An Introduction to Natural Language Processing, Computational Linguistics and Speech Recognition Deep Learning: Natural Language Processing in Python with GLoVe: From Word2Vec to GLoVe in Python and Theano (Deep Learning and Natural Language Processing) Deep Learning: Natural Language Processing in Python with Recursive Neural Networks: Recursive Neural (Tensor) Networks in Theano (Deep Learning and Natural Language Processing Book 3) The Simple Genetic Algorithm: Foundations and Theory (Complex Adaptive Systems) Integrated Theory & Knowledge Development in Nursing, 8e (Chinn, Integrated Theory and Knowledge Development in Nursing) Spoken Dialogue Systems (Synthesis Lectures on Human Language Technologies) Re-Engineering the Manufacturing System: Applying The Theory of Constraints (Manufacturing Engineering and Materials Processing Series, Vol. 47) Information Processing with Evolutionary Algorithms: From Industrial Applications to Academic Speculations (Advanced Information and Knowledge Processing) Natural Language Processing for Social Media (Synthesis Lectures on Human Language Technologies) Unix System V/386 Release 3.2: System

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