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**Multilingual Text-to-Speech Synthesis** - Richard Sproat - 1997-10-31

Multilingual Text-to-Speech Synthesis: The Bell Labs Approach is the first monograph-length description of the Bell Labs work on multilingual text-to-speech synthesis. Every important aspect of the system is described, including text analysis, segmental timing, intonation and synthesis. There is also a discussion of evaluation methodologies, as well as a chapter outlining some future areas of research. While the book focuses on the Bell Labs approach to the various problems of converting from text into speech, other approaches are discussed and compared. Thus, this book serves both the function of providing a single reference to an important strand of research in multilingual synthesis, while at the same time providing a source of information on current trends in the field. Chapters in this work were contributed by Richard Sproat, Jan van Santen, Bernd Möbus, Chilin Shih, Joseph Olive, Evelyne Tzoukermann, all of Bell Labs, and Kazuaki Maeda of the University of Pennsylvania.

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**Multilingual Speech Processing** - Tanja Schultz - 2006-06-12

Tanja Schultz and Katrin Kirchhoff have compiled a comprehensive overview of speech processing from a multilingual perspective. By taking this all-inclusive approach to speech processing, the editors have included theories, algorithms, and techniques that are required to support spoken input and output in a large variety of languages. Multilingual Speech Processing presents a comprehensive introduction to research problems and solutions, both from a theoretical as well as a practical perspective, and highlights technology that incorporates the increasing necessity for multilingual applications in our global community. Current challenges of speech processing and the feasibility of sharing data and system components across different languages guide contributors in their discussions of trends, prognoses and open research issues. This includes automatic speech recognition and speech synthesis, but also speech-to-speech translation, dialog systems, automatic language identification, and handling non-native speech. The book is complemented by an overview of multilingual resources, important research trends, and actual speech processing systems that are being deployed in multilingual human-human and human-machine interfaces. Researchers and developers in industry and academia with different backgrounds but a common interest in multilingual synthesis, while at the same time providing a source of information on current trends in the field. Chapters in this work were contributed by Richard Sproat, Jan van Santen, Bernd Möbus, Chilin Shih, Joseph Olive, Evelyne Tzoukermann, all of Bell Labs, and Kazuaki Maeda of the University of Pennsylvania.

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**Progress in Speech Synthesis** - Jan P.H. van Santen - 2013-06-29

For a machine to convert text into sounds that humans can understand as speech requires an enormous range of components, from abstract analysis of discourse structure to synthesis and modulation of the acoustic output. Work in the field is thus inherently interdisciplinary, involving linguistics, computer science, acoustics, and psychology. This collection of articles by leading researchers in each of the fields involved in text-to-speech synthesis provides a picture of recent work in laboratories throughout the world and of the problems and challenges that remain. By providing samples of synthesized speech as well as video demonstrations for several of the synthesizers discussed, the book will also allow the reader to judge what all the work adds up to — that is, how good is the synthetic speech we can now produce? Topics covered include: Signal processing and source modeling, Linguistic analysis, Articulatory synthesis and visual speech, Concatenative synthesis and automated segmentation, Prosodic analysis of natural speech Synthesis of prosody, Evaluation and perception, Systems and applications.

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**Springer Handbook of Speech Processing** - Jacob Benesty - 2007-11-28

This handbook plays a fundamental role in sustainable progress in speech research and development. With an accessible format and with accompanying DVD-Rom, it targets three categories of readers: graduate students, professors and active researchers in academia, and engineers in industry who need to understand or implement some specific algorithms for their speech-related products. It is a superb source of application-oriented, authoritative and comprehensive information about these technologies, this work combines the established knowledge derived from research in such fast evolving disciplines as Signal Processing and Communications, Acoustics, Computer Science and Linguistics.

**Text-to-Speech Synthesis** - Paul Taylor - 2009-02-19

Text-to-Speech Synthesis provides a complete, end-to-end account of the process of generating speech by computer. Giving an in-depth explanation of all aspects of current speech synthesis technology, it assumes no specialised prior knowledge. Introductory chapters on linguistics, phonetics, signal processing and speech signals lay the foundation with subsequent material explaining how this knowledge is put to use in building practical systems that generate speech. Including coverage of the very latest techniques such as unit selection, hidden Markov model synthesis, and statistical text analysis, explanations of the more traditional techniques such as format synthesis and synthesis by rule are also provided. Weaving together the various strands of this multidisciplinary field, the book is designed for graduate students in electrical engineering, computer science, and linguistics. It is also an ideal reference for practitioners in the fields of human communication interaction and telephony.

**The Integration of Phonetic Knowledge in Speech Technology** - William J. Barry - 2006-03-31

Continued progress in Speech Technology in the face of ever-increasing demands on the performance levels of applications is a challenge to the whole speech and language science community. Robust recognition and understanding of spontaneous speech in varied environments, good comprehensibility and naturalness of expressive speech synthesis are goals that cannot be achieved without a change of paradigm. This book argues for interdisciplinary communication and cooperation in problem-solving in general, and discusses the interaction between speech and language engineering and phonetics in particular. With a number of reports on innovative speech technology research as well as more theoretical discussions, it addresses the practical, scientific and sometimes the philosophical problems that stand in the way of cross-disciplinary collaboration and illuminates some of the many possible ways forward. Audience: Researchers and professionals in speech technology and computational linguists.

**Predicting Prosody from Text for Text-to-Speech Synthesis** - K. Sreenivasa Rao - 2012-04-27

Predicting Prosody from Text for Text-to-Speech Synthesis covers the specific aspects of prosody, mainly focusing on how to predict the prosodic information from linguistic text, and then how to exploit the predicted prosodic knowledge for various speech applications. Author K. Sreenivasa Rao discusses proposed methods along with state-of-the-art techniques for the acquisition and incorporation of prosodic knowledge for developing speech systems. Positional, contextual and phonological features are proposed for representing the linguistic and production constraints of the sound units present in the text. This book is intended for graduate students and researchers working in the area of speech processing.

**Multilingual Natural Language Processing Applications** - Daniel Bikel - 2012-05-11

Multilingual Natural Language Processing Applications is the first comprehensive single-source guide to building robust and accurate multilingual NLP systems. Edited by two leading experts, it integrates cutting-edge advances with practical solutions drawn from extensive field experience. Part I introduces the core concepts and theoretical foundations of modern multilingual natural language processing, presenting today's best practices for understanding word and document structure, analyzing syntax, modeling language, recognizing entailment, and detecting redundancy. Part II thoroughly addresses the practical considerations associated with building real-world applications, including information extraction, machine translation, information retrieval/search, summarization, question answering, distillation, processing pipelines, and more. This book contains important new contributions from leading researchers at IBM, Google, Microsoft, Thomson Reuters, BBN, CMU, University of Edinburgh, University of Washington, University of North Texas, and others. Coverage includes Core NLP problems, and today's best algorithms for attacking them. Proceeding the diverse morphologies present in the world's languages Uncovering syntactic structure, parsing semantics, using semantic role labeling, and scoring grammaticality Recognizing inferences, subjectivity, and opinion polarity Managing key algorithmic and design tradeoffs in real-world applications Extracting information via mention detection, coreference resolution, and events Building large-scale systems for machine translation, information retrieval, and summarization Answering complex questions through distillation and other advanced techniques Creating dialog systems that leverage advances in speech recognition, synthesis, and dialog management Constructing common infrastructure for multiple multilingual text processing applications This book will be invaluable for all engineers, software developers, researchers, and graduate students who want to process large quantities of text in multiple languages, in any environment: government, corporate, or academic.

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Speech Input and Output Assessment - Adrian Fournir - 1989

Pattern Recognition - DGM (Organization). Symposium - 2005-08-18

This book constitutes the refereed proceedings of the 27th Symposium of the German Association for Pattern Recognition, DAGM 2005, held in Wien, Austria in August/September 2005. The 29 revised full papers and 31 revised poster papers presented together with 2 invited papers were carefully reviewed and selected from 122 submissions. The papers are organized in topical sections on color analysis, stereo vision, invited papers, segmentation and grouping, automatic speech understanding, 3D view registration and surface modeling, motion and tracking, computational learning, applications, and uncertainty and robustness.

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Computer Synthesized Speech Technologies: Tools for Aiding Impairment - Mullennix, John - 2010-01-31

"This book provides practitioners and researchers with information that will allow them to better assist the speech disabled who wish to utilize computer synthesized speech (CSS) technology."--Provided by publisher.

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Speech and Language Technologies - Ivo Ipssc - 2011-06-21

This book addresses state-of-the-art systems and achievements in various topics in the research field of speech and language technologies. Book chapters are organized in different sections covering diverse problems, which have to be solved in speech recognition and language understanding systems. In the first section machine translation systems based on large parallel corpora using rule-based and statistical-based translation methods are presented. The third chapter presents work on real time two way speech-to-speech translation systems. In the second section two papers explore the use of speech technologies in language learning. The third section presents a work on language modeling used for speech recognition. The chapters in section Text-to-speech systems and emotional speech describe corpus-based speech synthesis and highlight the importance of speech prosody in speech recognition. In the fifth section the problem of speaker diarization is addressed. The last section presents various topics in speech technology applications like audio-visual speech recognition and lip reading systems.

Text, Speech and Dialogue - Vaclav Matousek - 2009-09-03

This volume constitutes selected papers from the 12th International Conference on Text, Speech and Dialogue, TSD 2009, held in Pilsen, Czech Republic, in September 2009. This volume contains a collection of submitted papers presented at the conference which were thoroughly reviewed by three members of the conference reviewing team consisting of more than 40 top specialists in the conference topic areas. A total of 33 accepted papers out of 112 submitted, altogether contributed 127 authors and co-authors, were selected for presentation at the conference by the program committee and then included in this book. Theoretical and more general contributions were presented in common (plenary) sessions. Problem oriented sessions as well as panel discussions then brought together the specialists in limited problem areas with the aim of exchanging knowledge and skills resulting from research projects of all kinds.

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Advances in Computing and Data Sciences - Mayank Singh - 2018-10-30

This two-volume set (CCIS 905 and CCIS 906) constitutes the refereed proceedings of the Second International Conference on Advances in Computing and Data Sciences, ICACDS 2018, held in Dehradun, India, in April 2018. The 110 full papers were carefully reviewed and selected from 598 submissions. The papers are centered around topics like advanced computing, data sciences, distributed systems organizing principles, development frameworks and environments, software verification and validation, computational complexity and cryptography, machine learning theory, database theory, probabilistic representations.

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Progress in Pattern Recognition, Image Analysis, Computer Vision, and Applications - Eduardo Bayro Corrochano - 2009-10-26

This book constitutes the refereed proceedings of the 14th Iberoamerican Congress on Pattern Recognition, CIARP 2009, held in Guadalajara, Mexico, in November 2009. The 64 revised full papers presented together with 44 posters were carefully reviewed and selected from 187 submissions. The papers are organized in topical sections on image coding, processing and analysis; segmentation, analysis of shape and texture; geometric image processing and analysis; analysis of signal, speech and language, document processing and recognition; feature extraction, clustering and classification, statistical pattern recognition; neural networks for pattern recognition; computer vision; video segmentation and tracking, robot vision; intelligent remote sensing, imagery research and
respected experts in the field.

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A state-of-the-art reference to one of the most active and productive fields in linguistics: computational linguistics. Thirty-eight chapters, commissioned from experts all over the world, describe the major concepts, methods, and applications. Part I provides an overview of the field; Part II describes current tasks, techniques, and tools in natural language processing; and Part III surveys current applications.

**Speech Synthesis and Recognition** - Wendy Holmes - 2002-09-11

With the growing impact of information technology on daily life, speech is becoming increasingly important for providing a natural means of communication between humans and machines. This extensively reworked and updated new edition of Speech Synthesis and Recognition is an easy-to-read introduction to current speech technology. Aimed at advanced undergraduates and graduates in electronic engineering, computer science and information technology, the book is also relevant to professional engineers who need to understand enough about speech technology to be able to apply it successfully and to work effectively with speech experts. No advanced mathematical ability is required and no specialist prior knowledge of phonetics or of the properties of speech signals is assumed.

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**Data-Driven Techniques in Speech Synthesis** - R.I. Damper - 2012-12-06

This first review of a new field covers all areas of speech synthesis from text, ranging from text analysis to letter-to-sound conversion. At the leading edge of current research, the concise and accessible book is written by well respected experts in the field.

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**The Speech Chain** - Dr. Peter B. Denes - 2016-08-09

Originally published in 1963, The Speech Chain has been regarded as the classic, easy-to-read introduction to the fundamentals and complexities of speech communication. It provides a foundation for understanding the essential aspects of linguistics, acoustics and anatomy, and explores research and development into digital processing of speech and the use of computers for the generation of artificial speech and speech recognition. This interdisciplinary account will prove invaluable to students with little or no previous exposure to the study of language.

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**Trames** - 2007

**Trames** - 2007

**Papers in Laboratory Phonology: Volume 1, Between the Grammar and Physics of Speech** - Conference in Laboratory Phonology (1 : 1988 : Columbus Ohio) - 1990-11-30

The unifying theme of this compilation of current speech science research is the relationship between phonological representations of grammatical structure and physical models of the production and perception of actual utterances.

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**Electronic Synthesis of Speech** - R. Linggard - 1985-01-10

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**Text, Speech and Dialogue** - Petr Sojka - 2003-08-02

The Text, Speech and Dialogue (TSD) Conference 2002, it should be noticed, is now being held for the 5th time and we are pleased to observe that in its short history it has turned out to be an international forum successfully intertwining the basic ?elds of NLP. It is our strong hope that the conference contributes to a better understanding between researchers from the various areas and promotes more intensive mutual cooperation. So far the communication between man and computers has displayed a one-way nature, humans have to know how the - chines work and only then can they "understand" them. The opposite, however, is still quite far from being real, our understanding of how our "user-friendly" computers can understand us humans is not deep enough yet. A lot of work has to be done both in the near and distant future. Let TSD 2002 be a modest contribution to this goal. The conference also serves well in its second purpose: to facilitate researchers meeting in the NLP ?eld from Western and Eastern Europe. Moreover, many participants now come from other parts of the world, thus making TSD a real crossroads for researchers in the NLP area. This volume contains the proceedings of this conference held in Brno, September 9-12, 2002. We were honored to have as keynote speakers James Pustejovsky from Brandeis University, and Ronald Cole from the University of Colorado. We would like to thank all the Program Committee members and external reviewers for their conscientious and diligent reviewing work.

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The volume addresses issues concerning prosody generation in speech synthesis, including prosody modeling, how we can convey para- and non-linguistic information in speech synthesis, and prosody control in speech synthesis (including prosody conversion). A high level of quality has already been achieved in speech synthesis by using selection-based models with segments of human speech. Although the method enables synthetic speech with various voice qualities and speaking styles, it requires large speech corpora with targeted quality and style. Accordingly, speech conversion techniques are now of growing interest among researchers. HMM/GMM-based methods are widely used, but entail several major problems when viewed from the prosody perspective: prosodic features cover a wider time span than segmental features and their frame-by-frame processing is not always appropriate. The book offers a good overview of state-of-the-art studies on prosody in speech synthesis.


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Handbook of Signal Processing in Acoustics - David Havelock - 2008-10-26

The Handbook of Signal Processing in Acoustics brings together a wide range of perspectives from over 100 authors to reveal the interdisciplinary nature of the subject. It brings the key issues from both acoustics and signal processing into perspective and is a unique resource for experts and practitioners alike to find new ideas and techniques within the diversity of signal processing in acoustics.

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Applied Speech Processing - Nilanjan Dey - 2021-02-01

Applied Speech Processing: Algorithms and Case Studies is concerned with supporting and enhancing the utilization of speech analytics in several systems and real-world activities, including sharing data analytics related information, creating collaboration networks between several participants, and the use of video-conferencing in different application areas. The book provides a well-standing forum to discuss the characteristics of the intelligent speech signal processing systems in different domains. The book is proposed for professionals, scientists, and engineers who are involved in new techniques of intelligent speech signal processing methods and systems. It provides an outstanding foundation for undergraduate and post-graduate students as well. Includes basics of speech data analysis and management tools with several applications, highlighting recording systems Covers different techniques of big data and Internet-of-Things in speech signal processing, including machine learning and data mining Offers a multidisciplinary view of current and future challenges in this field, with extensive case studies on the design, implementation, development and management of intelligent systems, neural networks, and related machine learning techniques for speech signal processing.

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This reference work delivers an interdisciplinary, applied spatial and geographical approach to the study of languages and linguistics. This work includes chapters and sections related to language origins, diffusion, conflicts, policies, education/instruction, representation, technology, regions, and mapping. Also addressed is the mapping of languages and linguistic diversity, on language in the context of politics, on the relevance of language to cultural identity, on language minorities and endangered languages, and also on language and the arts and non-human language and communication. This reference work looks at the subject matter and contributors to the disciplines and programs in the social sciences and humanities, and the dearth of materials on languages and linguistics. The topics covered are not only discipline-centered, but in the cutting-edge fields that intersect several disciplines and also cut across the social sciences and humanities. These include gender studies, sustainability and development, technology and social media impacts, law and human rights, climate change, public health and epidemiology, architecture, religion, visual representation and mapping. These new and emerging research directions and other intersecting fields are not traditionally discipline-bounded, but cut across numerous fields. The volumes will appeal to those within existing fields and disciplines and those working the intersections at local, regional and global scales.


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multilingual-text-to-speech-synthesis-the-bell-labs-approach

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Computational Linguistics and Intelligent Text Processing - Alexander Gelbukh - 2015-04-09

The two volumes LNCS 9041 and 9042 constitute the proceedings of the 16th International Conference on Computational Linguistics and Intelligent Text Processing, CICLing 2015, held in Cairo, Egypt, in April 2015. The total of 95 full papers presented was carefully reviewed and selected from 329 submissions. They were organized in topical sections on grammar formalisms and lexical resources; syntax and parsing; anaphora resolution and word sense disambiguation; semantics and dialogue; machine translation and multilingualism; sentiment analysis and emotion detection; opinion mining and social network analysis; natural language generation and text summarization; information retrieval, question answering, and information extraction; text classification; speech processing; and applications.

Speech and Language Engineering - Martin Rajman - 2007-04-27

Efficient processing of speech and language is required at all levels in the design of human-computer interfaces. In this perspective, the book provides a global understanding of the required theoretical foundations, as well as practical examples of successful applications, in the area of human-language technology. The authors start from acoustic signal processing to pragmatics, covering all the important aspects of speech and language processing such as phonetics, morphology, syntax, and semantics. Throughout the volume, the reader can easily notice an emerging methodology, a key issue in the rational design of efficient and robust language-based computer applications. While engineering rigor is guaranteed in all chapters, particular care has been taken in highlighting intuitive aspects of technical details. Contributions from acknowledged experts in the relevant sub-disciplines make this book a truly unique offering in the available literature on speech and language engineering.

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Expression in Speech - Mark Tatham - 2004

This book is about the nature of expression in speech. It is a comprehensive exploration of how such expression is produced and understood, and of how the emotional content of spoken words may be analysed, modelled, tested, and synthesized. Listeners can interpret tone-of-voice, assess emotional pitch, and effortlessly detect the finest modulations of speaker attitude; yet these processes present almost intractable difficulties to the researchers seeking to identify and understand them. In seeking to explain the production and perception of emotive content Mark Tatham and Katherine Morton review the potential of biological and cognitive models. They examine how the features that make up the speech production and perception systems have been studied by biologists, psychologists, and linguists, and assess how far biological, behavioural, and linguistic models generate hypotheses that provide insights into the nature of expressive speech. The authors use recent techniques inspeach...
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Text, Speech, and Dialogue - Petr Sojka - 2020
This book constitutes the proceedings of the 23rd International Conference on Text, Speech, and Dialogue, TSD 2020, held in Brno, Czech Republic, in September 2020.* The 54 full papers presented in this volume were carefully reviewed and selected from 110 submissions. They were organized in topical sections named text, speech, and dialogue. The book also contains 3 invited talks. * The conference was held virtually due to the COVID-19 pandemic.

Human-Computer Interaction. HCI Intelligent Multimodal Interaction Environments - Julie A. Jacko - 2007-08-24
Here is the third of a four-volume set that constitutes the refereed proceedings of the 12th International Conference on Human-Computer Interaction, HCII 2007, held in Beijing, China, in July 2007, jointly with eight other thematically similar conferences. It covers multimodality and conversational dialogue; adaptive, intelligent and emotional user interfaces; gesture and eye gaze recognition; and interactive TV and media.

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Human Language Technology Challenges for Computer Science and Linguistics - Zygmunt Vetulani - 2014-07-25
This book constitutes the refereed proceedings of the 5th Language and Technology Conference: Challenges for many cases substantially extended papers presented in this volume were carefully reviewed and selected from 111 submissions. The focus of the papers is on the following topics: speech, parsing, computational semantics, text analysis, text annotation, language resources: general issues, language resources: ontologies and Wordnets and machine translation.

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