Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing)

By Li Deng

Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) By Li Deng

What are the compelling reasons for carrying out dynamic speech modeling? We provide the answer in two related aspects. First, scientific inquiry into the human speech code has been relentlessly pursued for several decades. As an essential carrier of human intelligence and knowledge, speech is the most natural form of human communication. Embedded in the speech code are linguistic (as well as para-linguistic) messages, which are conveyed through four levels of the speech chain. Underlying the robust encoding and transmission of the linguistic messages are the speech dynamics at all the four levels. Mathematical modeling of speech dynamics provides an effective tool in the scientific methods of studying the speech chain. Such scientific studies help understand why humans speak as they do and how humans exploit redundancy and variability by way of multitiered dynamic processes to enhance the efficiency and effectiveness of human speech communication. Second, advancement of human language technology, especially that in automatic recognition of natural-style human speech is also expected to benefit from comprehensive computational modeling of speech dynamics. The limitations of current speech recognition technology are serious and are well known. A commonly acknowledged and frequently discussed weakness of the statistical model underlying current speech recognition technology is the lack of adequate dynamic modeling schemes to provide correlation structure across the temporal speech observation sequence. Unfortunately, due to a variety of reasons, the majority of current research activities in this area favor only incremental modifications and improvements to the existing HMM-based state-of-the-art. For example, while the dynamic and correlation modeling is known to be an important topic, most of the systems nevertheless employ only an ultra-weak form of speech dynamics; e.g., differential or delta parameters. Strong-form dynamic speech modeling, which is the focus of this monograph, may serve as an ultimate solution to this problem. After the introduction chapter, the main body of this monograph consists of four chapters. They cover various aspects of theory, algorithms, and applications of dynamic speech models, and provide a comprehensive survey of the research work in this area spanning over past 20~years. This monograph is intended as advanced materials of speech and signal processing for graudate-level teaching, for professionals and engineering practioners, as well as for seasoned researchers

and engineers specialized in speech processing.

Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing)

By Li Deng

Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) By Li Deng

What are the compelling reasons for carrying out dynamic speech modeling? We provide the answer in two related aspects. First, scientific inquiry into the human speech code has been relentlessly pursued for several decades. As an essential carrier of human intelligence and knowledge, speech is the most natural form of human communication. Embedded in the speech code are linguistic (as well as para-linguistic) messages, which are conveyed through four levels of the speech chain. Underlying the robust encoding and transmission of the linguistic messages are the speech dynamics at all the four levels. Mathematical modeling of speech dynamics provides an effective tool in the scientific methods of studying the speech chain. Such scientific studies help understand why humans speak as they do and how humans exploit redundancy and variability by way of multitiered dynamic processes to enhance the efficiency and effectiveness of human speech communication. Second, advancement of human language technology, especially that in automatic recognition of natural-style human speech is also expected to benefit from comprehensive computational modeling of speech dynamics. The limitations of current speech recognition technology are serious and are well known. A commonly acknowledged and frequently discussed weakness of the statistical model underlying current speech recognition technology is the lack of adequate dynamic modeling schemes to provide correlation structure across the temporal speech observation sequence. Unfortunately, due to a variety of reasons, the majority of current research activities in this area favor only incremental modifications and improvements to the existing HMM-based state-of-the-art. For example, while the dynamic and correlation modeling is known to be an important topic, most of the systems nevertheless employ only an ultra-weak form of speech dynamics; e.g., differential or delta parameters. Strong-form dynamic speech modeling, which is the focus of this monograph, may serve as an ultimate solution to this problem. After the introduction chapter, the main body of this monograph consists of four chapters. They cover various aspects of theory, algorithms, and applications of dynamic speech models, and provide a comprehensive survey of the research work in this area spanning over past 20~years. This monograph is intended as advanced materials of speech and signal processing for graudate-level teaching, for professionals and engineering practioners, as well as for seasoned researchers and engineers specialized in speech processing.

Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) By Li Deng Bibliography

- Sales Rank: #8925535 in Books
- Brand: Brand: Morgan and Claypool Publishers
- Published on: 2006-08-21
- Original language: English
- Number of items: 1
- Dimensions: 9.25" h x .27" w x 7.50" l, .50 pounds
- Binding: Paperback
- 118 pages

Download and Read Free Online Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) By Li Deng

Editorial Review

Users Review

From reader reviews:

Patricia Vasquez:

The book Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) can give more knowledge and also the precise product information about everything you want. Exactly why must we leave the good thing like a book Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing)? Several of you have a different opinion about e-book. But one aim in which book can give many details for us. It is absolutely appropriate. Right now, try to closer with the book. Knowledge or information that you take for that, you could give for each other; you could share all of these. Book Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) has simple shape but the truth is know: it has great and large function for you. You can look the enormous world by open and read a e-book. So it is very wonderful.

James Moore:

Typically the book Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) will bring someone to the new experience of reading some sort of book. The author style to clarify the idea is very unique. When you try to find new book to learn, this book very suitable to you. The book Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) is much recommended to you to see. You can also get the e-book through the official web site, so you can easier to read the book.

Harry Keller:

Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) can be one of your beginner books that are good idea. We recommend that straight away because this e-book has good vocabulary that will increase your knowledge in language, easy to understand, bit entertaining however delivering the information. The author giving his/her effort to place every word into enjoyment arrangement in writing Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) but doesn't forget the main position, giving the reader the hottest along with based confirm resource information that maybe you can be one among it. This great information could drawn you into new stage of crucial considering.

Patricia Meyer:

A lot of e-book has printed but it differs from the others. You can get it by online on social media. You can choose the most effective book for you, science, comedy, novel, or whatever by searching from it. It is known as of book Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing). You can contribute your knowledge by it. Without leaving the printed book, it can add your knowledge and make

anyone happier to read. It is most essential that, you must aware about guide. It can bring you from one destination to other place.

Download and Read Online Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) By Li Deng #85QZJ7IFXOS

Read Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) By Li Deng for online ebook

Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) By Li Deng Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) By Li Deng books to read online.

Online Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) By Li Deng ebook PDF download

Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) By Li Deng Doc

Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) By Li Deng Mobipocket

Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) By Li Deng EPub

85QZJ7IFXOS: Dynamic Speech Models (Synthesis Lectures on Speech and Audio Processing) By Li Deng