AMY NEUSTEIN (Ed.)

SPEECH AND AUTOMATA IN HEALTH CARE

Series in Speech Technology and Text Mining in Medicine and Health Care (Edited by Amy Neustein)

Speech and Automata in Health Care forges new ground by closely analyzing how three separate disciplines – speech technology, robotics, and medical/surgical/assistive care – intersect with one another, resulting in an innovative way of diagnosing and treating both juvenile and adult illnesses and conditions. This includes the use of speech-enabled robotics to help the elderly population cope with common problems associated with aging caused by the diminution in their sensory, auditory and motor capabilities. By examining the emerging nexus of speech, automata, and health care, the authors demonstrate the exciting potential of automata, both speech-driven and multimodal, to affect the healthcare delivery system so that it better meets the needs of the populations it serves. This book provides both empirical research findings and incisive literature reviews that demonstrate some of the more novel uses of speech-enabled and multimodal automata in the operating room, hospital ward, long-term care facility, and in the home. Studies backed by major universities, research institutes, and by EU-funded collaborative projects are debuted in this volume.

Topics in this book include:

- Spoken Interaction with Healthcare Robots
- Service Robot Feature Effects on Patient Acceptance/Emotional Response
- Designing Embodied and Virtual Agents for the Operating Room
- The Emerging Role of Robotics for Personal Health Management in the Older-Adult Population
- Why Input Methods for Robots that Serve the Older Adult Are Critical for Usability
- Socially and Cognitively Engaging Robots in the Long-Term Care Setting
- Voice-Enabled Assistive Robots for Managing Autism Spectrum Conditions
- ASR and TTS for Voice-Controlled Robot Interactions in Treating Children with Metabolic Disorders

From the contents

A Critical Analysis of Speech-based Interaction in Healthcare Robots | Speech-based Interaction with Service Robots | Improving Patient-Robot Interaction in Health Care | Designing Embodied and Virtual Agents for the Operating Room | The Emerging Role of Robotics for Personal Health Management in the Older-Adult Population | Enabling Older Adults to Interact with Robots | Human-Robot Interaction for Assistance with Activities of Daily Living | Voice-enabled Assistive Robots for Handling Autism Spectrum Conditions | ASR and TTS for Voice Controlled Child-Robot Interactions in Italian

Amy Neustein, Ph.D., is Founder and CEO of Linguistic Technology Systems, located in Fort Lee, New Jersey. She has published over 40 scholarly articles and many books. Dr. Neustein is a member of De Gruyter's STM Editorial Advisory Board, and Editor of their new series, *Speech Technology and Text Mining in Medicine and Health Care*.
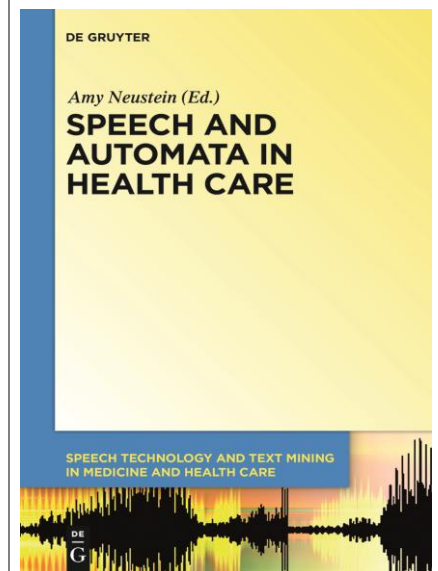
288 pages

Hardcover
RRP € 59,95 / *US$ 79.95
ISBN   978-1-61451-709-2

eBook (PDF)
RRP € 59,95 / *US$ 79.95
ISBN   978-1-61451-515-9

eBook (EPUB)
RRP € 59,95 / *US$ 79.95
ISBN   978-1-61451-960-7

Print/e-book
RRP € 89,95 / *US$ 126.00
ISBN   978-1-61451-516-6

Date of publication
November 2014

For more information please visit:
www.degruyter.com/books/978-1-61451-709-2

Additional Titles in the Series:

Neustein (Ed.), Text Mining of Web-Based Medical Content, ISBN: 978-1-61451-541-8

Patil and Kulshreshtha (Eds.), Signal and Acoustic Modeling for Speech and Communication Disorders, ISBN: 978-1-61451-759-7

Ganchev, Computational Bioacoustics, ISBN: 978-1-61451-729-0

Beals, Dahl, and Linebarger, Speech and Language Technology for Language Disorders, ISBN: 978-1-61451-758-0