

# Contents

## Part I Spoken Dialog Systems in Everyday Applications

<b>1</b>	<b>Spoken Language Understanding for Natural Interaction: The Siri Experience .....</b>	<b>3</b>
	Jerome R. Bellegarda	
<b>2</b>	<b>Development of Speech-Based In-Car HMI Concepts for Information Exchange Internet Apps .....</b>	<b>15</b>
	Hansjörg Hofmann, Anna Silberstein, Ute Ehrlich, André Berton, Christian Müller, and Angela Mahr	
<b>3</b>	<b>Real Users and Real Dialog Systems: The Hard Challenge for SDS .....</b>	<b>29</b>
	Alan W. Black and Maxine Eskenazi	
<b>4</b>	<b>A Multimodal Multi-device Discourse and Dialogue Infrastructure for Collaborative Decision-Making in Medicine.....</b>	<b>37</b>
	Daniel Sonntag and Christian Schulz	

## Part II Spoken Dialog Prototypes and Products

<b>5</b>	<b>Yochina: Mobile Multimedia and Multimodal Crosslingual Dialogue System .....</b>	<b>51</b>
	Feiyu Xu, Sven Schmeier, Renlong Ai, and Hans Uszkoreit	
<b>6</b>	<b>Walk This Way: Spatial Grounding for City Exploration .....</b>	<b>59</b>
	Johan Boye, Morgan Fredriksson, Jana Götze, Joakim Gustafson, and Jürgen Königsmann	

<b>7</b>	<b>Multimodal Dialogue System for Interaction in Aml Environment by Means of File-Based Services .....</b>	<b>69</b>
	Nieves Ábalos, Gonzalo Espejo, Ramón López-Cózar, Francisco J. Ballesteros, Enrique Soriano, and Gorka Guardiola	
<b>8</b>	<b>Development of a Toolkit Handling Multiple Speech-Oriented Guidance Agents for Mobile Applications .....</b>	<b>79</b>
	Sunao Hara, Hiromichi Kawanami, Hiroshi Saruwatari, and Kiyohiro Shikano	
<b>9</b>	<b>Providing Interactive and User-Adapted E-City Services by Means of Voice Portals .....</b>	<b>87</b>
	David Griol, María García-Jiménez, Zoraida Callejas, and Ramón López-Cózar	
 <b>Part III Multi-domain, Crosslingual Spoken Dialog Systems</b>		
<b>10</b>	<b>Efficient Language Model Construction for Spoken Dialog Systems by Inducting Language Resources of Different Languages ..</b>	<b>101</b>
	Teruhisa Misu, Shigeki Matsuda, Etsuo Mizukami, Hideki Kashioka, and Haizhou Li	
<b>11</b>	<b>Towards Online Planning for Dialogue Management with Rich Domain Knowledge.....</b>	<b>111</b>
	Pierre Lison	
<b>12</b>	<b>A Two-Step Approach for Efficient Domain Selection in Multi-Domain Dialog Systems .....</b>	<b>125</b>
	Injae Lee, Seokhwan Kim, Kyungduk Kim, Donghyeon Lee, Junhwi Choi, Seonghan Ryu, and Gary Geunbae Lee	
 <b>Part IV Human-Robot Interaction</b>		
<b>13</b>	<b>From Informative Cooperative Dialogues to Long-Term Social Relation with a Robot .....</b>	<b>135</b>
	Axel Buendia and Laurence Devillers	
<b>14</b>	<b>Integration of Multiple Sound Source Localization Results for Speaker Identification in Multiparty Dialogue System.....</b>	<b>153</b>
	Taichi Nakashima, Kazunori Komatani, and Satoshi Sato	
<b>15</b>	<b>Investigating the Social Facilitation Effect in Human –Robot Interaction .....</b>	<b>167</b>
	Ina Wechsung, Patrick Ehrenbrink, Robert Schleicher, and Sebastian Möller	
<b>16</b>	<b>More Than Just Words: Building a Chatty Robot .....</b>	<b>179</b>
	Emer Gilmartin and Nick Campbell	

<b>17 Predicting When People Will Speak to a Humanoid Robot</b> .....	187
Takaaki Sugiyama, Kazunori Komatani, and Satoshi Sato	
<b>18 Designing an Emotion Detection System for a Socially Intelligent Human-Robot Interaction</b> .....	199
Clément Chastagnol, Céline Clavel, Matthieu Courgeon, and Laurence Devillers	
<b>19 Multimodal Open-Domain Conversations with the Nao Robot</b> .....	213
Kristiina Jokinen and Graham Wilcock	
<b>20 Component Pluggable Dialogue Framework and Its Application to Social Robots</b> .....	225
Ridong Jiang, Yeow Kee Tan, Dilip Kumar Limbu, Tran Anh Dung, and Haizhou Li	

## **Part V Spoken Dialog Systems Components**

<b>21 Visual Contribution to Word Prominence Detection in a Playful Interaction Setting</b> .....	241
Martin Heckmann	
<b>22 Label Noise Robustness and Learning Speed in a Self-Learning Vocal User Interface</b> .....	249
Bart Ons, Jort F. Gemmeke, and Hugo Van hamme	
<b>23 Topic Classification of Spoken Inquiries Using Transductive Support Vector Machine</b> .....	261
Rafael Torres, Hiromichi Kawanami, Tomoko Matsui, Hiroshi Saruwatari, and Kiyohiro Shikano	
<b>24 Frame-Level Selective Decoding Using Native and Non-native Acoustic Models for Robust Speech Recognition to Native and Non-native Speech</b> .....	269
Yoo Rhee Oh, Hoon Chung, Jeom-ja Kang, and Yun Keun Lee	
<b>25 Analysis of Speech Under Stress and Cognitive Load in USAR Operations</b> .....	275
Marcela Charfuelan and Geert-Jan Kruijff	

## **Part VI Dialog Management**

<b>26 Does Personality Matter? Expressive Generation for Dialogue Interaction</b> .....	285
Marilyn A. Walker, Jennifer Sawyer, Grace Lin, and Sam Wing	

<b>27</b>	<b>Application and Evaluation of a Conditioned Hidden Markov Model for Estimating Interaction Quality of Spoken Dialogue Systems</b> .....	<b>303</b>
	Stefan Ultes, Robert ElChab, and Wolfgang Minker	
<b>28</b>	<b>FLoReS: A Forward Looking, Reward Seeking, Dialogue Manager</b> .....	<b>313</b>
	Fabrizio Morbini, David DeVault, Kenji Sagae, Jillian Gerten, Angela Nazarian, and David Traum	
<b>29</b>	<b>A Clustering Approach to Assess Real User Profiles in Spoken Dialogue Systems</b> .....	<b>327</b>
	Zoraida Callejas, David Griol, Klaus-Peter Engelbrecht, and Ramón López-Cózar	
<b>30</b>	<b>What Are They Achieving Through the Conversation? Modeling Guide–Tourist Dialogues by Extended Grounding Networks</b> .....	<b>335</b>
	Etsuo Mizukami and Hideki Kashioka	
<b>31</b>	<b>Co-adaptation in Spoken Dialogue Systems</b> .....	<b>343</b>
	Senthilkumar Chandramohan, Matthieu Geist, Fabrice Lefèvre, and Olivier Pietquin	
<b>32</b>	<b>Developing Non-goal Dialog System Based on Examples of Drama Television</b> .....	<b>355</b>
	Lasguido Nio, Sakriani Sakti, Graham Neubig, Tomoki Toda, Mirna Adriani, and Satoshi Nakamura	
<b>33</b>	<b>A User Model for Dialog System Evaluation Based on Activation of Subgoals</b> .....	<b>363</b>
	Klaus-Peter Engelbrecht	
<b>34</b>	<b>Real-Time Feedback System for Monitoring and Facilitating Discussions</b> .....	<b>375</b>
	Sanat Sarda, Martin Constable, Justin Dauwels, Shoko Dauwels (Okutsu), Mohamed Elgendi, Zhou Mengyu, Umer Rasheed, Yasir Tahir, Daniel Thalmann, and Nadia Magnenat-Thalmann	
<b>35</b>	<b>Evaluation of Invalid Input Discrimination Using Bag-of-Words for Speech-Oriented Guidance System</b> .....	<b>389</b>
	Haruka Majima, Rafael Torres, Hiromichi Kawanami, Sunao Hara, Tomoko Matsui, Hiroshi Saruwatari, and Kiyohiro Shikano	

Natural Interaction with Robots, Knowbots and  
Smartphones

Putting Spoken Dialog Systems into Practice

Mariani, J.; Rosset, S.; Garnier-Rizet, M.; Devillers, L.  
(Eds.)

2014, XVI, 397 p. 132 illus., 73 illus. in color., Hardcover

ISBN: 978-1-4614-8279-6