Contents

Part I  Natural-Language Technology and the Global Marketplace

1  Making the Case for an Open, Unified System Architecture in Response to Rapid Developments in the Natural Language Industry: Translingual Automatic Language Exploration the System (TALES)  ......................................................... Leiming Qian, Imed Zitouni, and John F. Pitrelli  ......................................................... 3

2  The Burgeoning of Medical Social-Media Postings and the Need for Improved Natural Language Mapping Tools  ............ Kerstin Denecke and Nazli Soltani  ......................................................... 27

3  Machine Translation: The Enterprise Point of View  ................. Brian Garr and Vadim Berman  ......................................................... 45

4  Speech-Enabled Unified Communications: Overcoming the Multilingual Challenges of the European Market  ........ Detlev Artelt and Hassan Sawaf  ......................................................... 59

Part II  Advanced NLP Methods and Applications

5  Exploiting Lexical Sensitivity in Performing Word Sense Disambiguation  .......................................................... Oi Yee Kwong  ......................................................... 81

6  Summarizing Short Texts Through a Discourse-Centered Approach in a Multilingual Context  .......................................................... Daniel Alexandru Anechitei, Dan Cristea, Ioannidis Dimosthenis, Eugen Ignat, Diman Karagiozov, Svetla Koeva, Mateusz Kopeć, and Cristina Vertan  ......................................................... 109
7 Handling Two Difficult Challenges for Text-to-Speech Synthesis Systems: Out-of-Vocabulary Words and Prosody: A Case Study in Romanian
Tiberiu Boroș, Dan Ștefănescu, and Radu Ion .............................................. 137
8 MAP: An Abstraction-Based Metaphor Analysis Program for Overcoming Cross-Modal Challenges
Sylvia Weber Russell ................................................................. 163
9 Translation of Idiomatic Expressions Across Different Languages: A Study of the Effectiveness of TRANSSEARCH
Stéphane Huet and Philippe Langlais .................................................. 185

Part III Innovative NLP Tools for Physicians, Educators and Translators
10 Argumentation-Based Dialogue Systems for Medical Training
Adela Grando, Laura Moss, Gemma Bel-Enguix, M. Dolores Jiménez-López, and John Kinsella
11 Design of Dialog-Based Intelligent Tutoring Systems to Simulate Human-to-Human Tutoring
Sidney D’Mello and Art Graesser .......................................................... 233
12 TCAD: Vocabulary Acquisition Tool for Motivating Bilingual Pupils with Hearing Impairment in Learning English
Santichai Wicha, Bernadette Sharp, Anthony S. Atkins, Pradorn Sureephong, and Nopasit Chakpitak
13 A Hybrid Approach to Automated Rating of Foreign Language Proficiency Using Oral Test Responses
Homayoon Beigi .............................................................................. 285
14 Multilingual Systems, Translation Technology and Their Impact on the Translator’s Profession
Carlos S.C. Teixeira ........................................................................... 299

Editors Biographies ............................................................................ 315
Where Humans Meet Machines
Innovative Solutions for Knotty Natural-Language Problems
Neustein, A.; Markowitz, J.A. (Eds.)
2013, XV, 315 p., Hardcover