Table of Contents

I Text

The Linguistic Basis of a Rule-Based Tagger of Czech 3
Karel Oliva (University of Saarland), Milena Hnátková, Vladimír Petkevič, Pavel Květoň (Charles University, Prague)

Harnessing the Lexicographer in the Quest for Accurate Word Sense Disambiguation 9
David Tugwell, Adam Kilgarriff (ITRI, University of Brighton)

An Integrated Statistical Model for Tagging and Chunking Unrestricted Text 15
Ferran Pla, Antonio Molina, Natividad Prieto (University of Valencia)

Extending Bidirectional Chart Parsing with an Stochastic Model 21
Alicia Ageno, Horacio Rodríguez (Universidad Politècnica de Catalunya)

Ensemble of Classifiers for Noise Detection in PoS Tagged Corpora 27
Harald Berthelsen (Telia Promotor), Beáta Megyesi (Stockholm University)

Towards a Dynamic Syntax for Language Modelling 33
David Tugwell (University of Brighton)

A Word Analysis System for German Hyphenation, Full Text Search, and Spell Checking, with Regard to the Latest Reform of German Orthography 39
Gabriele Kodydek (Vienna University of Technology)

Automatic Functor Assignment in the Prague Dependency Treebank 45
Zdeněk Žabokrtský (Czech Technical University, Prague)

Categories, Constructions, and Dependency Relations 51
Geert-Jan M. Kruijff (Charles University, Prague)

Local Grammars and Parsing Coordination of Nouns in Serbo-Croatian 57
Goran Nenadić (University of Belgrade)

Realization of Syntactic Parser for Inflectional Language using XML and Regular Expressions 63
Marek Trabalka and Mária Bieliková (Slovak University of Technology, Bratislava)

A Rigoristic and Automated Analysis of Texts Applied to a Scientific Abstract by Mark Sergot and Others 69
Gregers Koch (Copenhagen University)

Evaluation of Tectogrammatical Annotation of PDT 75
Eva Hajičová, Petr Pajas (Charles University, Prague)

Probabilistic Head-Driven Chart Parsing of Czech Sentences 81
Pavel Smrž, Aleš Horák (Masaryk University in Brno)

Aggregation and Contextual Reference in Automatically Generated Instructions . 87
Ivana Kruijff-Korbayová and Geert-Jan Kruijff (Charles University, Prague)

Information Retrieval by Means of Word Sense Disambiguation 93
Luis Alfonso Ureña López (University of Jaén), José Maria Gómez Hidalgo, Manuel de Buenaga Rodríguez (Universidad Europea– CEES, Madrid)

Statistical Parameterisation of Text Corpora 99
Gregory Y. Martynenko, Tatiana Y. Sherstinova (St. Petersburg State University)

An Efficient Algorithm for Japanese Sentence Compaction Based on Phrase Importance and Inter-Phrase Dependency 103
Rei Oguro, Kazuhiko Ozeki, Kazuyuki Takagi (The University of Electro-Communications, Tokyo), Yujie Zhang (ATR Spoken Language Translation Research Laboratories, Kyoto)

Word Senses and Semantic Representations 109
Karel Pala (Masaryk University in Brno)

Automatic Tagging of Compound Verb Groups in Czech Corpora 115
Eva Žáčková, Luboš Popelínský, Miloslav Nepil (Masaryk University in Brno)

Sensitive Words and their Application to Chinese Processing 121
Fuji Ren (Hiroshima City University), Jian-Yun Nie (University of Montreal)

Testing a Word Analysis System for Reliable and Sense-Conveying Hyphenation and Other Applications 127
Martin Schönhacker, Gabriele Kodydek (Vienna University of Technology)

The Challenge of Parallel Text Processing 133
Milena Slavcheva (Bulgarian Academy of Science)

Selected Types of Pg-Ambiguity: Processing Based on Analysis by Reduction . . . 139
Markéta Straňáková (Charles University, Prague)

Cohesive Generation of Syntactically Simplified Newspaper Text 145
Yvonne Canning, John Tait, Jackie Archibald, Ros Crawley (University of Sunderland)

TEA: A Text Analysis Tool for the Intelligent Text Document Filtering 151
Jan Žižka, Aleš Bourek, Luděk Frey (Masaryk University in Brno)

Competing Patterns for Language Engineering 157
Petr Sojka (Masaryk University in Brno)

II Speech

Recognition and Labelling of Prosodic Events in Slovenian Speech 165
France Mihelič, Jerneja Gros (University of Ljubljana), Elmar Nöth, Volker Warnke (University Erlangen-Nürnberg)

Rules for Automatic Grapheme-to-Allophone Transcription in Slovene 171
Jerneja Gros, France Mihelič, Nikola Pavešić (University of Ljubljana)

An Adaptive and Fast Speech Detection Algorithm 177
Dragos Burileanu, Lucian Pascalin, Corneliu Burileanu (University of Bucharest), Mihai Puchiu (Graphco Technologies, Romania)

Optimal Pitch Path Tracking for More Reliable Pitch Detection 183
Petr Motlíček (VUT Brno), Jan Černocký (VUT Brno)

FlexVoice: A Parametric Approach to High-Quality Speech Synthesis 189
György Balogh, Ervin Dobler, Tamás Grőbler, Béla Smodics, Csaba Szepesvári (Mindmaker Ltd., Budapest)

The Continuous and Discontinuous Styles in Czech TTS 195
Tomáš Duběda, Jiří Hanika (Charles University, Prague)

Automatic Speech Segmentation with the Application of the Czech TTS System . 201
Petr Horák, Betty Hesounová (Academy of Sciences of the Czech Republic, Prague)

Speaker Identification Using Autoregressive Hidden Markov Models and Adaptive Vector Quantisation 207
Eugeny E. Bovbel, Igor E. Kheidorov, Michael E. Kotlyar (Belarussian State University)

Morpheme Based Language Models for Speech Recognition of Czech 211
William J. Byrne (Johns Hopkins University), Jan Hajič, Pavel Krbec (Charles University, Prague), Pavel Ircing, Josef Psutka (University of West Bohemia in Pilsen)

A Large Czech Vocabulary Recognition System for Real-Time Applications 217
Jan Nouza (Technical University of Liberec)

Building a New Czech Text-to-Speech System Using Triphone-Based Speech Units 223
Jindřich Matoušek (University of West Bohemia in Pilsen)

Acoustic and Perceptual Properties of Syllables in Continuous Speech as a Function of Speaking Rate 229
Hisao Kuwabara, Michinori Nakamura (Teikyo University of Science and Technology)

NL-Processor and Linguistic Knowledge Base in a Speech Recognition System . . 237
Michael G. Malkovsky, Alexey V. Subbotin (Moscow State University)

Russian Phonetic Variability and Connected Speech Transcription 243
Vladimir I. Kuznetsov, Tatiana Y. Sherstinova (St. Petersburg State University)

Database Processing for Spanish Text-to-Speech Synthesis 248
Juan Francisco Gómez Mena, M. Cardo, José Luís Madrid Cobos, C. Prades (Ciudad University, Madrid)

Topic-Sensitive Language Modelling 253
Mirjam Sepesy Maučec, Zdravko Kačič (University of Maribor)

Design of Speech Recognition Engine 259
Luděk Müller, Josef Psutka, Luboš Šmídl (University of West Bohemia in Pilsen)

Combining Multi-Band and Frequency-Filtering Techniques for Speech Recognition in Noisy Environments 265
Peter Jančovič, Ji Ming, Philip Hanna, Darryl Stewart, Jack Smith (The Queen's University of Belfast)

Allophone- and Suballophone-Based Speech Synthesis System for Russian 271
Pavel Skrelin (St. Petersburg State University)

Diphone-Based Unit Selection for Catalan Text-to-Speech Synthesis 277
Roger Guaus i Térmens, Ignasi Iriondo Sanz (University Ramon Llull, Barcelona)

Analysis of Information in Speech and its Application in Speech Recognition . . . 283
Sachin S. Kajarekar (Oregon Graduate Institute of Science and Technology), Hynek Hermansky (International Computer Science Institute, Berkeley)

What Textual Relationships Demand Phonetic Focus? 289
Sofia Gustafson-Čapková, Jennifer Spenader (Stockholm University)

Speaker Identification Using Kalman Cepstral Coefficients 295
Zdeněk Švenda, Vlasta Radová (University of West Bohemia in Pilsen)

Belarussian Speech Recognition Using Genetic Algorithms 301
Eugene I. Bovbel, Dzmitry V. Tsishkou (Belarussian State University)

A Discriminative Segmental Speech Model and its Application to Hungarian Number Recognition 307
László Tóth, András Kocsor, Kornél Kovács (University of Szeged)

Comparison of Frequency Bands in Closed Set Speaker Identification Performance 314
Özgür Devrim Orman (TÜBİTAK, Kocaeli), Levent Arslan (Boğaziçi University, İstanbul)

Recording and Annotation of the Czech Speech Corpus 319
Vlasta Radová, Josef Psutka (University of West Bohemia in Pilsen)

III Dialogue

A Text Based Talking Face 327
Léon Johannes Mathias Rothkrantz, Ania Wojdel (Delft University of Technology)

Dialogue Control in the Alparon System 333
Léon Johannes Mathias Rothkrantz, Robert Jan van Vark, Alexandra Maria Martina Peters, Niels Anton Andeweg (Delft University of Technology)

ISIS: Interaction through Speech with Information Systems 339
Afzal Ballim, Jean-Cédric Chappelier, Martin Rajman, Vincenzo Pallotta (EPFL, Lausanne)

Centering-Based Anaphora Resolution in Danish Dialogues 345
Costanza Navarretta (Center for Language Technology, Copenhagen)

Some Improvements on the IRST Mixed Initiative Dialogue Technology 351
C. Barbero, D. Falavigna, R. Gretter, M. Orlandi, E. Pianta, (ITC-irst, Trento)

Dictionary-Based Method for Coherence Maintenance in Man-Machine Dialogue with Indirect Antecedents and Ellipses 357
Alexander Gelbukh, Grigori Sidorov, Igor A. Bolshakov (Natural Language Laboratory, Mexico)

Reconstructing Conversational Games in an Obligation-Driven Dialogue Model . 363
Jörn Kreutel (SAIL LABS S.L., Spain)

Prosody Prediction from Tree-like Structure Similarities 369
Laurent Blin (IRISA-ENSSAT), Mike Edgington (SRI International)

A Speaker Authentication Module in TelCorreo 375
Leandro Rodríguez-Liñares (E.T.S.E. Informática, Spain), Carmen García-Mateo (E.T.S.E. Telecomunicación, Spain)

TelCorreo: A Bilingual E-mail Client over the Telephone 381
Leandro Rodríguez Liñares (E.T.S.E. Informática, Spain), Antonio Cardenal López, Carmen García Mateo, David Pérez-Piñar López, Eduardo Rodríguez Banga, Xabier Fernández Salgado (E.T.S.E. Telecomunicación, Spain)

A Syntactical Model of Prosody as an Aid to Spoken Dialogue Systems in Italian Language 387
Enzo Mumolo, (University of Trieste)

What Do You Mean by "What Do You Mean"? 393
Norihiro Ogata (Osaka University)

Simplified Processing of Elliptic and Anaphoric Utterances in a Train Timetable Information Retrieval Dialogue System 399
Václav Matoušek (University of West Bohemia in Pilsen)

Pragmatic and Grammatical Aspects of The Development of Dialogue Strategies . 405
James Monaghan (University of Hertfordshire)

An Annotation Scheme for Dialogues Applied to Anaphora Resolution Algorithms 410
Patricio Martínez-Barco, Manuel Palomar (University Alicante)

Cooperative Information Retrieval Dialogues through Clustering 415
Paulo Quaresma, Irene Pimenta Rodrigues (University Évora)

Acoustic Cues for Classifying Communicative Intentions in Dialogue Systems . . 421
Michelina Savino, Mario Refice (Politecnico di Bari)

Active and Passive Strategies in Dialogue Program Generation 427
Ivan Kopeček (Masaryk University in Brno)

Architecture of Multi-Modal Dialogue System 433
Martin Fuchs, Petr Hejda, Pavel Slavík (Czech Technical University, Prague)

The Utility of Semantic-Pragmatic Information and Dialogue-State for Speech Recognition in Spoken Dialogue Systems 439
Georg Stemmer, Elmar Nöth, Heinrich Niemann (University of Erlangen-Nürnberg)

Word Concept Model for Intelligent Dialogue Agents 445
Yang Li, Tong Zhang, Stephen E. Levinson (Beckman Institute, Urbana)

Author Index 451

Subject Index 463