

## PREFACE

This special collection of papers represents a relatively comprehensive overview of the variety of important research in computational linguistics currently taking place in North America. The primary contributors to this edition include computing scientists, philosophers, psychologists and linguists; their professions are indicative of the disparate approaches which each has brought to further research in computational linguistics.

Twenty active and well-known researchers in computational linguistics were invited to contribute to this volume but unfortunately not all were able to do so; the contents of this volume are not as complete as it might otherwise be. The fifteen papers representing nineteen authors' contributions covers a breadth of computational linguistics consisting of:

- (1) Theoretical foundations: the logical foundations of knowledge representation; semantic analyses; and model-theoretical semantics.
- (2) Parsing: parsing strategies for natural language; computational aspects of parsing; perspectives on parsing issues.
- (3) Discourse processing: psychological and linguistic modelling; discourse analysis.
- (4) Text Analysis: text and content analysis; text generation.
- (5) Natural language understanding and knowledge organisation: memory models; learning; inference techniques.
- (6) Programming systems for computational linguistics: knowledge representation languages; special purpose languages.
- (7) Programming environments: programming considerations for computational linguistics.
- (8) Interactive applications: natural language front-end processors to database systems; the human factors interface.

The narrow approaches to machine translation of the early 1960s pale when compared to the considerable assortment of methodologies available to the modern computational linguist. The growth in the number of publications devoted to computational linguistics parallels a similar increase in computing science literature and is indicative of its rapid development. This impressive maturation has been accompanied by an equally exciting change in the nature of experiments, systems and theoretical speculation. Only a decade or so ago researchers were content to speculate about the results of a program demonstrating limited comprehension in a "micro-world". Contemporary results indicate a broader framework for investigations into the theory and applications of research in computational linguistics.

The challenges of integrating the various approaches to problems faced by computational linguistics were difficult and, at times, frustrating. I owe each contributor a debt of gratitude, first for writing a new and totally original article for this collection and also for rewriting, editing and reviewing. Each author constructively and patiently reviewed three other authors' submissions which has helped to improve the contents, coherence, and style of the entire issue. I am immeasurably indebted to Ms. Josie Backhouse for her extraordinary organisational efforts and her attention to every aspect concerned with this special collection. The entire volume represents over a year of hard work which significantly extended my original plans for publication. Hopefully, the extra time was well-spent and will make this issue a classic reference for the future.

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