

EACL-2006

**11th Conference
of the European Chapter of the
Association for Computational Linguistics**

Proceedings of the workshop on

**ROMAND 2006:
Robust Methods in Analysis
of Natural language Data**

April, 3rd, 2006
Trento, Italy

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EACL-2006 is supported by

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Preface

Robustness is a fuzzy notion, which accordingly is difficult to define. This difficulty mainly arises from the fact that robustness touches upon the highly subjective and application-specific notion of the norm and the deviation thereof. Thus, robustness is inherently about the unexpected, about all the things that can and will go wrong, which have not been taken care of and which usually cannot be fully anticipated.

On the other hand, robustness is one of the most prominent characteristics of intelligent human behaviour which facilitates flexible and sensible responses to a wide variety of unpredictable situations. A closer look at the phenomenon reveals a multitude of different aspects. Thus merely speaking about robustness requires to identify precisely against which particular kind of deviation robust behaviour is desired, a question which is highly dependent on the application and the task at hand.

The contributions to this workshop deal with issues of robustness in quite different areas of Natural Language Processing, ranging from anaphora resolution on the one hand to three different sentence analysis tasks on the other.

Delmonte et al. compare their system for anaphora resolution against three other systems from the literature and show that it outperforms the other approaches significantly. They attribute this success to the use of a robust parser, which is able to determine surface and deep syntactic relationships robustly.

Semantically annotated structures are in the focus of Musillo and Merlo's paper. They modified a statistical parsing model to also assign semantic role labels as annotated in the Prop bank. The solution differs from other approaches in that it integrates both labeling tasks into a single processing step. The results show that despite a 20-fold increase in non-terminals a fairly high f-measure of 82\% was obtained. This corresponds to an absolute reduction of as little as 6\% compared to the baseline system, which only considers purely syntactic categories. Musillo and Merlo interpret this as evidence for the robustness of the underlying stochastic model (Simple Synchrony Network), which does not require making specific assumptions about parameter independence.

Philippe Blache applies Property Grammar, a constraint-based formalism for phrase structure descriptions, to shallow parsing of French sentences. Robustness in this case is achieved by relaxing constraints if necessary.

Finally, Foth and Menzel investigate the relationship between coverage and accuracy when parsing unrestricted German text. Their results confirm that even for a grammar which is able to determine the optimal structure according to some given criterion, there is a reciprocal correspondence: reducing the coverage by removing rare phenomena from the grammar slightly increased the accuracy of the parser. They claim that this finding provides support to the hypothesis that robustness, which in this case is introduced by means of weighted constraints, might be a more desirable property than coverage as long as really rare phenomena are considered.

With this selection the workshop unites samples of different techniques for achieving robustness for a range of different processing task. This, however, leaves completely

untouched the problem of measuring robustness properties as such. If robustness is defined as a smooth degradation in the performance of a system when faced with unexpected input, common evaluation procedures where test and training data are obtained from the same source, do not contribute very much to a deeper understanding of what robustness really means and how it can be achieved best.

Talking about robustness as the ability to deal with deviation from the norm naturally includes issues like scalability and portability. It therefore remains a challenge for future research to develop proposals for standardized scenarios in which such properties can be evaluated across a wide variety of languages and processing tasks. In this sense this workshop is a small contribution of an ongoing effort towards a common research goal, which step by step might become less elusive: How to make natural language processing systems more stable, more dependable, more useful, ...in short, more human like.

Wolfgang Menzel

Workshop Organizers:

Wolfgang Menzel, University of Hamburg, Germany
Vincenzo Pallotta, University of Fribourg, Switzerland

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Invited speaker:

Gertjan van Noord, University of Groningen, The Netherlands

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Workshop website:

<http://www.icsi.berkeley.edu/~vincenzo/romand2006/>

Workshop Program

Monday, April 3rd

14:00-14:05 *Welcome*

14:05-15:05 Invited Talk: *Robust Parsing, Error Mining, Automated Lexical Acquisition, and Evaluation*, Gertjan van Noord

15:05-15:35 *Another Evaluation of Anaphora Resolution Algorithms and a Comparison with GETARUNS' Knowledge Rich Approach*. Rodolfo Delmonte, Antonella Bristot, Marco Aldo Piccolino Boniforti, Sara Tonelli.

15:35-16:00 BREAK

16:00-16:30 *Robust Parsing of the Proposition Bank*. Gabriele Musillo and Paola Merlo.

16:30- 17:00 *A Robust and Efficient Parser for Non-Canonical Inputs*. Philippe Blache

17:00-17:30 *Robust Parsing: More with Less*. Kilian Foth and Wolfgang Menzel

17:30-18:30 *Final Panel*

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