

COLING·ACL 2006

Linguistic Distances

Proceedings of the Workshop

Chairs: John Nerbonne and Erhard Hinrichs

> 23 July 2006 Sydney, Australia

Production and Manufacturing by BPA Digital 11 Evans St Burwood VIC 3125 AUSTRALIA



©2006 The Association for Computational Linguistics

Order copies of this and other ACL proceedings from:

Association for Computational Linguistics (ACL) 209 N. Eighth Street Stroudsburg, PA 18360 USA Tel: +1-570-476-8006 Fax: +1-570-476-0860 acl@aclweb.org

ISBN 1-932432-83-3

Table of Contents

Preface
Organizers
Workshop Programix
Linguistic Distances John Nerbonne and Erhard Hinrichs
Semantic Similarity: What for? Ido Dagan
Similarity Judgments: Philosophical, Psychological and Mathematical Investigations Claude St-Jacques and Caroline Barrière
Automatically Creating Datasets for Measures of Semantic Relatedness Torsten Zesch and Iryna Gurevych16
Comparison of Similarity Models for the Relation Discovery Task Ben Hachey
Sentence Comparison Using Robust Minimal Recursion Semantics and an Ontology Rebecca Dridan and Francis Bond 35
Evaluation of Several Phonetic Similarity Algorithms on the Task of Cognate Identification Grzegorz Kondrak and Tarek Sherif
<i>Evaluation of String Distance Algorithms for Dialectology</i> Wilbert Heeringa, Peter Kleiweg, Charlotte Gooskens and John Nerbonne
Study of Some Distance Measures for Language and Encoding Identification Anil Kumar Singh 63
Towards Case-Based Parsing: Are Chunks Reliable Indicators for Syntax Trees? Sandra Kübler
A Measure of Aggregate Syntactic Distance John Nerbonne and Wybo Wiersma
A Structural Similarity Measure Petr Homola and Vladislav Kuboň
Variants of Tree Similarity in a Question Answering Task Martin Emms
Total Rank Distance and Scaled Total Rank Distance: Two Alternative Metrics in Computational Linguistics
Anca Dinu and Liviu P. Dinu
Author Index

Preface

Welcome to the proceedings of 'Linguistic Distances' a workshop held in conjunction with ACL/COLING 2006 in Sydney. An introductory article explains our motivation for holding the workshop, which attracted 30 submissions, of which thirteen are included in these proceedings. We are gratified by this level of interest. In fact we restricted the remit of the workshop to exclude the use of distance (or its inverse, similarity) in evaluation because it was felt that evaluation was already regularly the subject of several focused workshops. So the topic of 'Linguistic Distances' seems to resonate within the computational linguistics community.

Perhaps we should add that we also hoped to attract computational interest in (non-applied) linguistic topics, and that this, too, emerged in the submissions, although it is not strongly reflected in the choice of articles. We'll poll participants about interest in a possible follow-up, but we have no plans in that direction at this writing.

Our thanks are largely given in the acknowledgments section of the introductory article, but let's add thanks to Suzanne Stevenson, the workshop chair of the conference, and to her review committee.

John Nerbonne and Erhard Hinrichs

Organizers

Chairs:

John Nerbonne, Groningen Erhard Hinrichs, Tübingen

Program Committee:

Harald Baayen, Nijmegen Walter Daelemans, Antwerp Ido Dagan, Technion, Haifa Wilbert Heeringa, Groningen Ed Hovy, ISI, Los Angeles Grzegorz Kondrak, Alberta Sandra Kübler, Tübingen Rada Mihalcea, North Texas Ted Pedersen, Minnesota Dan Roth, Illinois Hinrich Schütze, Stuttgart Junichi Tsujii, Tokyo Menno van Zaanen, Macquarie, Sydney

Additional Reviewers:

Gosse Bouma, Groningen Gertjan van Noord, Groningen and anonymous reviewers

Invited Speaker:

Ido Dagan, Bar Ilan University

Sponsor:

Netherlands Organisation for Scientific Research (NWO), Grant 200-02100, for cooperation with the *Seminar für Sprachwissenschaft*, Tübingen.

Workshop Program

Sunday, 23 July 2006

8:45–9:00 Opening Remarks: *Linguistic Distances* John Nerbonne and Erhard Hinrichs

Session 1: Semantics I

- 9:00–10:00 Invited Talk: Semantic Similarity: What for? Ido Dagan
- 10:00–10:30 Similarity Judgments: Philosophical, Psychological and Mathematical Investigations Claude St-Jacques and Caroline Barrière
- 10:30-11:00 Break

Session 2: Semantics II

- 11:00–11:30 *Automatically Creating Datasets for Measures of Semantic Relatedness* Torsten Zesch and Iryna Gurevych
- 11:30–12:00 *Comparison of Similarity Models for the Relation Discovery Task* Ben Hachey
- 12:00–12:30 *Sentence Comparison Using Robust Minimal Recursion Semantics and an Ontology* Rebecca Dridan and Francis Bond
- 12:30-14:00 Lunch

Sunday, 23 July 2006 (continued)

Session 3: Pronunciation and Language Variation

- 14:00–14:30 *Evaluation of Several Phonetic Similarity Algorithms on the Task of Cognate Identification* Grzegorz Kondrak and Tarek Sherif
- 14:30–15:00 *Evaluation of String Distance Algorithms for Dialectology* Wilbert Heeringa, Peter Kleiweg, Charlotte Gooskens and John Nerbonne
- 15:00–15:30 *Study of Some Distance Measures for Language and Encoding Identification* Anil Kumar Singh
- 15:30-16:00 Break

Session 4: Syntax

- 16:00–16:30 *Towards Case-Based Parsing: Are Chunks Reliable Indicators for Syntax Trees?* Sandra Kübler
- 16:30–17:00 *A Measure of Aggregate Syntactic Distance* John Nerbonne and Wybo Wiersma
- 17:00–17:30 *A Structural Similarity Measure* Petr Homola and Vladislav Kuboň
- 17:30–18:00 *Variants of Tree Similarity in a Question Answering Task* Martin Emms

Reserve Paper

Total Rank Distance and Scaled Total Rank Distance: Two Alternative Metrics in Computational Linguistics Anca Dinu and Liviu P. Dinu