NAACL-HLT 2012

Proceedings of the Joint Workshop on Automatic Knowledge Base Construction and Web-scale Knowledge Extraction (AKBC-WEKEX 2012)

June 7-8, 2012 Montréal, Canada Production and Manufacturing by Omnipress, Inc. 2600 Anderson Street Madison, WI 53707 USA

©2012 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

ISBN13: 978-1-937284-20-6, ISBN10: 1-937284-20-4

Introduction

Recently, there has been a significant amount of interest in automatically creating large-scale knowledge bases (KBs) from unstructured text. The Web-scale knowledge extraction task presents a unique set of opportunities and challenges. The resulting knowledge bases can have the advantage of scale and coverage. They have been enriched by linking to the Semantic Web, in particular the growing linked open dataset (LOD). These semantic knowledge bases have been used for a wide variety of Natural Language Processing, Knowledge Representation, and Reasoning applications such as semantic search, question answering, entity resolution, ontology mapping etc. The automatic construction of these KBs has been enabled by research in areas including natural language processing, information extraction, information integration, databases, search and machine learning. There are substantial scientific and engineering challenges in advancing and integrating such relevant methodologies.

With this year's workshop, we would like to resume the positive experiences from two previous workshops: AKBC-2010 and WEKEX-2011. The joint AKBC-WEKEX workshop will serve as a forum for researchers working in the area of automated knowledge harvesting from text. By having invited talks by leading researchers from industry, academia, and the government, and by focusing particularly on vision papers, we aim to provide a vivid forum of discussion about the field of automated knowledge base construction. For more details on the workshop, please visit: http://akbcwekex2012.wordpress.com/

James Fan, Raphael Hoffman, Aditya Kalyanpur, Sebastian Riedel, Fabian Suchanek, Partha Talukdar

Organizers:

James Fan (IBM Research) Raphael Hoffman (University of Washington) Aditya Kalyanpur (IBM Research) Sebastian Riedel (University of Massachusetts, Amherst) Fabian Suchanek (Max-Planck Institute for Informatics) Partha Pratim Talukdar (Carnegie Mellon University)

Steering Committee:

Oren Etzioni (University of Washington) Andrew McCallum (University of Massachusetts, Amherst) Fernando Pereira (Google Research) Gerhard Weikum (Max-Planck Institute for Informatics)

Invited Speaker:

Nilesh Dalvi (Yahoo Research) Bonnie Dorr (DARPA) Oren Etzioni (University of Washington) James Fan / Aditya Kalyanpur (IBM Research) Ed Hovy (University of Southern California/ISI) Andrew McCallum (University of Massachusetts, Amherst) Fernando Pereira (Google Research) Tom Mitchell (Carnegie Mellon University) Patrick Pantel (Microsoft Research) Chris Re (University of Wisconsin, Madison) Steffen Staab (University of Koblenz)

Program Committee:

Soren Auer (University of Leipzig) Ken Barker (IBM Research) Peter Clark (Vulcan Inc.) Amol Deshpande (University of Maryland) Anhai Doan (University of Wisconsin, Madison) Oren Etzioni (University of Washington) Tony Fader (University of Washington) Alfio Gliozzo (IBM Research) Alon Halevy (Google Research) Ed Hovy (University of Southern California/ISI) Zack Ives (University of Pennsylvania) Vladimir Kolovski (Novartis) Xiao Ling (University of Washington) Andrew McCallum (University of Massachusetts, Amherst) Goran Nenadic (University of Manchester) Patrick Pantel (Microsoft Research) Marius Pasca (Google Research) Chris Re (University of Wisconsin, Madison) Alan Ritter (University of Washington) Sunita Sarawagi (IIT Bombay) Sameer Singh (University of Massachusetts, Amherst) Martin Theobald (Max-Planck Institute for Informatics) Gerhard Weikum (Max-Planck Institute for Informatics) Limin Yao (University of Massachusetts, Amherst)

Table of Contents

Entity Linking at Web Scale Thomas Lin, and Oren Etzioni
Human-Machine Cooperation: Supporting User Corrections to Automatically Constructed KBs Michael Wick, Karl Schultz and Andrew McCallum
Annotated Gigaword Courtney Napoles, Matthew Gormley and Benjamin Van Durme
<i>Rel-grams: A Probabilistic Model of Relations in Text</i> Niranjan Balasubramanian, Stephen Soderland, and Oren Etzioni
Automatic Knowledge Base Construction using Probabilistic Extraction, Deductive Reasoning, and Human Feedback Daisy Zhe Wang, Yang Chen, Sean Goldberg, Christan Grant and Kun Li
Monte Carlo MCMC: Efficient Inference by Sampling Factors Sameer Singh, Michael Wick and Andrew McCallum
Probabilistic Databases of Universal Schema Limin Yao, Sebastian Riedel and Andrew McCallum116
Using Textual Patterns to Learn Expected Event Frequencies Jonathan Gordon and Lenhart Schubert

Workshop Program

Thursday, June 7, 2012

- 8:30–9:00 Opening Remarks
- 9:00–9:45 Invited Talk: Oren Etzioni
- 9:45–10:30 Invited Talk: Patrick Pantel
- 10:30-11:00 Break
- 11:00–11:45 Invited Talk: Andrew McCallum
- 11:45–12:30 Invited Talk: James Fan / Aditya Kalyanpur
- 12:30-14:00 Lunch
- 14:00–14:45 Poster Quick Presentations
- 14:45–15:30 Top 3 Talks
- 15:30-16:00 Break
- 16:00–18:00 Poster Session

Friday, June 8, 2012

- 9:00–9:45 Invited Talk: Fernando Pereira
- 9:45–10:30 Invited Talk: Tom Mitchell
- 10:30-11:00 Break
- 11:00–11:45 Invited Talk: Chris Re
- 11:45–12:30 Invited Talk: Steffen Staab

Friday, June 8, 2012 (continued)

12:30-14:00	Lunch
14:00-14:45	Invited Talk: Ed Hovy
14:45-15:30	Invited Talk: Nilesh Davi
15:30-16:00	Break
16:00–16:30	Invited Talk: Bonnie Dorr

16:30–18:00 Unconference