8th Workshop
on
Statistical Machine Translation

Proceedings of the Workshop

August 8-9, 2013
Sofia, Bulgaria
Shared Tasks supported by the following EU Framework Programme 7 projects:

- MosesCore
- CASMACAT
- Matecat
- QTLauchPad

Additional funding provided by Microsoft Research.
Preface

The ACL 2013 Workshop on Statistical Machine Translation (WMT 2013) took place on Thursday and Friday, August 8–9, 2013 in Sofia, Bulgaria, immediately following the Conference of the Association for Computational Linguistics (ACL).

This is the eighth time this workshop has been held. The first time it was held at HLT-NAACL 2006 in New York City, USA. In the following years the Workshop on Statistical Machine Translation was held at ACL 2007 in Prague, Czech Republic, ACL 2008, Columbus, Ohio, USA, EACL 2009 in Athens, Greece, ACL 2010 in Uppsala, Sweden, EMNLP 2011 in Edinburgh, Scotland, and NAACL 2012 in Montréal, Canada.

The focus of our workshop was to use parallel corpora for machine translation. Recent experimentation has shown that the performance of SMT systems varies greatly with the source language. In this workshop we encouraged researchers to investigate ways to improve the performance of SMT systems for diverse languages, including morphologically more complex languages, languages with partial free word order, and low-resource languages.

Prior to the workshop, in addition to soliciting relevant papers for review and possible presentation, we conducted three shared tasks: a translation task, a quality estimation task, and a task to test automatic evaluation metrics. The results of the shared tasks were announced at the workshop, and these proceedings also include an overview paper for the shared tasks that summarizes the results, as well as provides information about the data used and any procedures that were followed in conducting or scoring the task. In addition, there are short papers from each participating team that describe their underlying system in greater detail.

Like in previous years, we have received a far larger number of submission than we could accept for presentation. This year we have received 32 full paper submissions and 46 shared task submissions. In total WMT-2013 featured 18 full paper oral presentations and 45 shared task poster presentations.

The invited talk was given by Andreas Eisele (Directorate-General for Translation at the European Commission, Luxembourg) entitled “Machine Translation at the European Commission: Serving the multilingual needs of the European Commission”.

We would like to thank the members of the Program Committee for their timely reviews. We also would like to thank the participants of the shared task and all the other volunteers who helped with the evaluations.

Ondřej Bojar, Christian Buck, Chris Callison-Burch, Barry Haddow, Philipp Koehn, Christof Monz, Matt Post, Hervé Saint-Amand, Radu Soricut, and Lucia Specia
Each year WMT awards a 5-year Retrospective Best Paper Award. This year we selected the best paper from 2008’s Workshop on Statistical Machine Translation, which was collocated with ACL in Columbus, Ohio. The goals of this retrospective award are to recognize high-quality work that has stood the test of time, and to highlight the excellent work that appears at WMT.

37 members of the WMT13 program committee voted on the best paper from a list of seven nominated papers. These were nominated by selecting the papers with the most non-self-citations in the ACL anthology network. This year the vote was very close, and was divided between several excellent papers. Ultimately, the program committee decided to award the WMT 5-year Retrospective Best Paper Award to:


In this paper, Gimpel and Smith used a variety of features, including surrounding words and part-of-speech tags, local syntactic structure, and other properties of the source language sentence to help predict each phrase’s translation. They argued that source side features were easier to exploit than target side features, and that they were likely to make a bigger impact, since some target side features are already exploited via the language model. Gimpel and Smith empirically demonstrated the value of their model by augmenting the baseline Moses MT system and fielding an entry into the English-to-German shared task at WMT that year.

One of the program committee members, Preslav Nakov, commented that this work made an important contribution in the direction of context-aware SMT, which has been largely neglected in mainstream SMT research.

Congratulations to Kevin Gimpel and Noah Smith on their excellent work!
Organizers:

Ondřej Bojar (Charles University)
Christian Buck (University of Edinburgh)
Chris Callison-Burch (Johns Hopkins University)
Barry Haddow (University of Edinburgh)
Philipp Koehn (University of Edinburgh)
Christof Monz (University of Amsterdam)
Matt Post (Johns Hopkins University)
Hervé Saint-Amand (University of Edinburgh)
Radu Soricut (Google)
Lucia Specia (University of Sheffield)

Invited Talk:

Andreas Eisele (European Commission)

Program Committee:

Lars Ahrenberg (Linköping University)
Eleftherios Avramidis (German Research Center for Artificial Intelligence (DFKI))
Daniel Beck (University of Sheffield)
Nicola Bertoldi (FBK)
Arianna Bisazza (Fondazione Bruno Kessler)
Graeme Blackwood (IBM Research)
Phil Blunsom (University of Oxford)
Chris Brockett (Microsoft Research)
Bill Byrne (University of Cambridge)
Nicola Cancedda (Xerox Research Centre Europe)
Hailong Cao (Harbin Institute of Technology)
Marine Carpuat (National Research Council)
Francisco Casacuberta (Universitat Politècnica de Valencia)
Daniel Cer (Stanford University)
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Steve DeNeefe (SDL Language Weaver)
John DeNero (Google)
Michael Denkowski (Carnegie Mellon University)
Markus Dreyer (SDL Language Weaver)
Kevin Duh (Nara Institute of Science and Technology)
Chris Dyer (Carnegie Mellon University)
Marc Dymetman (Xerox Research Centre Europe)
Stefano Faralli (Sapienza University of Rome)
Yang Feng (University of Sheffield)
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José A. R. Fonollosa (Universitat Politècnica de Catalunya)
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Gonzalo Iglesias (University of Cambridge)
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Dragos Munteanu (SDL Language Technologies)
Markos Mylonakis (Xerox Research Centre Europe)
Preslav Nakov (Qatar Computing Research Institute, Qatar Foundation)
Kemal Oflazer (Carnegie Mellon University - Qatar)
Sergio Penkale (Lingo24)
Chris Quirk (Microsoft Research)
Stefan Riezler (Heidelberg University)
Johann Roturier (Symantec)
Anoop Sarkar (Simon Fraser University)
Holger Schwenk (University of Le Mans)
## Table of Contents

*Findings of the 2013 Workshop on Statistical Machine Translation*
   Ondřej Bojar, Christian Buck, Chris Callison-Burch, Christian Federmann, Barry Haddow, Philipp Koehn, Christof Monz, Matt Post, Radu Soricut and Lucia Specia .......................................................... 1

*Results of the WMT13 Metrics Shared Task*
   Matouš Macháček and Ondřej Bojar ......................................................... 45

*The Feasibility of HMEANT as a Human MT Evaluation Metric*
   Alexandra Birch, Barry Haddow, Ulrich Germann, Maria Nadejde, Christian Buck and Philipp Koehn .................................................................................................................... 52

*LIMSI @ WMT13*
   Alexander Allauzen, Nicolas Pécheux, Quoc Khanh Do, Marco Dinarelli, Thomas Lavergne, Aurélien Max, Hai-Son Le and François Yvon ................................................................. 62

*The CMU Machine Translation Systems at WMT 2013: Syntax, Synthetic Translation Options, and Pseudo-References*
   Waleed Ammar, Victor Chahuneau, Michael Denkowski, Greg Hanneman, Wang Ling, Austin Matthews, Kenton Murray, Nicola Segall, Alon Lavie and Chris Dyer ............................................................ 70

*Feature Decay Algorithms for Fast Deployment of Accurate Statistical Machine Translation Systems*
   Ergun Bicici ......................................................................................... 78

*CUUni Multilingual Matrix in the WMT 2013 Shared Task*
   Karel Břízek and Daniel Zeman ................................................................. 85

*Chimera – Three Heads for English-to-Czech Translation*
   Ondřej Bojar, Rudolf Rosa and Aleš Tamchyna ........................................ 92

*Yandex School of Data Analysis Machine Translation Systems for WMT13*
   Alexey Borisov, Jacob Dlugach and Irina Galinskaya .................................. 99

*The Karlsruhe Institute of Technology Translation Systems for the WMT 2013*
   Eunah Cho, Thanh-Le Ha, Mohammed Mediani, Jan Niehues, Teresa Herrmann, Isabel Slawik and Alex Waibel ................................................................. 104

*TÜBİTAK-BİLGEM German-English Machine Translation Systems for W13*
   Ilknur Durgar El-Kahlout and Coşkun Mermer ................................................ 109

*Edinburgh’s Machine Translation Systems for European Language Pairs*
   Nadir Durrani, Barry Haddow, Kenneth Heafield and Philipp Koehn .................. 114

*Munich-Edinburgh-Stuttgart Submissions of OSM Systems at WMT13*
   Nadir Durrani, Alexander Fraser, Helmut Schmid, Hassan Sajjad and Richárd Farkas ............. 122

*Towards Efficient Large-Scale Feature-Rich Statistical Machine Translation*
   Vladimir Eidelman, Ke Wu, Ferhan Ture, Philip Resnik and Jimmy Lin .............. 128

*The TALP-UPC Phrase-Based Translation Systems for WMT13: System Combination with Morphology Generation, Domain Adaptation and Corpus Filtering*
   Lluís Formiga, Marta R. Costa-jussà, José B. Mariño, José A. R. Fonollosa, Alberto Barrón-Cedeño and Lluís Marquez ........................................................................................................ 134
PhraseFix: Statistical Post-Editing of TectoMT
Petra Galuščáková, Martin Popel and Ondřej Bojar .................................................. 141

Feature-Rich Phrase-based Translation: Stanford University’s Submission to the WMT 2013 Translation Task
Spence Green, Daniel Cer, Kevin Reschke, Rob Voigt, John Bauer, Sida Wang, Natalia Silveira, Julia Neidert and Christopher D. Manning .................................................. 148

Factored Machine Translation Systems for Russian-English
Stéphane Huet, Elena Manishina and Fabrice Lefèvre ................................................. 154

Omnifluent English-to-French and Russian-to-English Systems for the 2013 Workshop on Statistical Machine Translation
Evgeny Matusov and Gregor Leusch ................................................................. 158

Pre-Reordering for Machine Translation Using Transition-Based Walks on Dependency Parse Trees
Antonio Valerio Miceli Barone and Giuseppe Attardi .............................................. 164

Edinburgh’s Syntax-Based Machine Translation Systems
Maria Nadejde, Philip Williams and Philipp Koehn ..................................................... 170

Shallow Semantically-Informed PBSMT and HPBSMT
Tsuyoshi Okita, Qun Liu and Josef van Genabith ....................................................... 177

Joint WMT 2013 Submission of the QUAERO Project
Stephan Peitz, Saab Mansour, Matthias Huck, Markus Freitag, Hermann Ney, Eunah Cho, Teresa Herrmann, Mohammed Mediani, Jan Niehues, Alex Waibel, Alexander Allauzen, Quoc Khanh Do, Bianka Buschbeck and Tonio Wandmacher .................................................. 185

The RWTH Aachen Machine Translation System for WMT 2013
Stephan Peitz, Saab Mansour, Jan-Thorsten Peter, Christoph Schmidt, Joern Wuebker, Matthias Huck, Markus Freitag and Hermann Ney .................................................. 193

The University of Cambridge Russian-English System at WMT13
Juan Pino, Aurelien Waite, Tong Xiao, Adrià de Gispert, Federico Flego and William Byrne .. 200

Joshua 5.0: Sparser, Better, Faster, Server

The CNGL-DCU-Prompsit Translation Systems for WMT13
Raphael Rubino, Antonio Toral, Santiago Cortés Vailllo, Jun Xie, Xiaofeng Wu, Stephen Doherty and Qun Liu ................................................................. 213

QCRI-MES Submission at WMT13: Using Transliteration Mining to Improve Statistical Machine Translation
Hassan Sajjad, SvetaLana Smekalova, Nadir Durrani, Alexander Fraser and Helmut Schmid . . 219

Tunable Distortion Limits and Corpus Cleaning for SMT
Sara Stymne, Christian Hardmeier, Jörg Tiedemann and Joakim Nivre ................................ 225

Munich-Edinburgh-Stuttgart Submissions at WMT13: Morphological and Syntactic Processing for SMT
Marion Weller, Max Kisselew, SvetaLana Smekalova, Alexander Fraser, Helmut Schmid, Nadir Durrani, Hassan Sajjad and Richárd Farkas .................................................. 232
Coping with the Subjectivity of Human Judgements in MT Quality Estimation
Marco Turchi, Matteo Negri and Marcello Federico ........................................................ 240

Online Polylingual Topic Models for Fast Document Translation Detection
Kriste Krstovski and David A. Smith ............................................................................. 252

Combining Bilingual and Comparable Corpora for Low Resource Machine Translation
Ann Irvine and Chris Callison-Burch .............................................................................. 262

Generating English Determiners in Phrase-Based Translation with Synthetic Translation Options
Yulia Tsvetkov, Chris Dyer, Lori Levin and Archna Bhatia ........................................... 271

Dramatically Reducing Training Data Size Through Vocabulary Saturation
William Lewis and Sauleh Eetemadi .............................................................................. 281

Multi-Task Learning for Improved Discriminative Training in SMT
Patrick Simianer and Stefan Riezler ................................................................................. 292

Online Learning Approaches in Computer Assisted Translation
Prashant Mathur, Cettolo Mauro and Marcello Federico ............................................... 301

Length-Incremental Phrase Training for SMT
Joern Wuebker and Hermann Ney .................................................................................. 309

Positive Diversity Tuning for Machine Translation System Combination
Daniel Cer, Christopher D. Manning and Dan Jurafsky ................................................. 320

Selecting Feature Sets for Comparative and Time-Oriented Quality Estimation of Machine Translation Output
Eleftherios Avramidis and Maja Popovic ......................................................................... 329

SHEF-Lite: When Less is More for Translation Quality Estimation
Daniel Beck, Kashif Shah, Trevor Cohn and Lucia Specia ............................................. 337

Referential Translation Machines for Quality Estimation
Ergun Bicici ...................................................................................................................... 343

FBK-UEdin Participation to the WMT13 Quality Estimation Shared Task
José Guilherme Camargo de Souza, Christian Buck, Marco Turchi and Matteo Negri ....... 352

The TALP-UPC Approach to System Selection: Asiya Features and Pairwise Classification Using Random Forests
Lluís Formiga, Meritxell Gonzàlez, Alberto Barrón-Cedeño, José A. R. Fonollosa and Lluis Marquez .......................................................................................................................................................... 359

Quality Estimation for Machine Translation Using the Joint Method of Evaluation Criteria and Statistical Modeling
Aaron Li-Feng Han, Yi Lu, Derek F. Wong, Lidia S. Chao, Liangye He and Junwen Xing ...... 365

MT Quality Estimation: The CMU System for WMT’13
Silja Hildebrand and Stephan Vogel ................................................................................ 373

LORIA System for the WMT13 Quality Estimation Shared Task
David Langlois and Kamel Smaili .................................................................................. 380
**LIG System for WMT13 QE Task: Investigating the Usefulness of Features in Word Confidence Estimation for MT**  
Ngoc Quang Luong, Benjamin Lecouteux and Laurent Besacier ................................. 386

**DCU-Symantec at the WMT 2013 Quality Estimation Shared Task**  
Raphael Rubino, Joachim Wagner, Jennifer Foster, Johann Roturier, Rasoul Samad Zadeh Kaljahi and Fred Hollowood .......................................................... 392

**LIISI Submission for the WMT’13 Quality Estimation Task: an Experiment with N-Gram Posteriors**  
Anil Kumar Singh, Guillaume Wisniewski and François Yvon ................................. 398

**Ranking Translations using Error Analysis and Quality Estimation**  
Mark Fishel .................................................................................................................. 405

**Are ACT’s Scores Increasing with Better Translation Quality?**  
Najeh Hajlaoui ............................................................................................................. 408

**A Description of Tunable Machine Translation Evaluation Systems in WMT13 Metrics Task**  
Aaron Li-Feng Han, Derek F. Wong, Lidia S. Chao, Yi Lu, Liangye He, Yiming Wang and Jiaji Zhou .......................................................... 414

**MEANT at WMT 2013: A Tunable, Accurate yet Inexpensive Semantic Frame Based MT Evaluation Metric**  
Chi-kiu Lo and Dekai Wu ......................................................................................... 422

**An Approach Using Style Classification Features for Quality Estimation**  
Erwan Moreau and Raphael Rubino ........................................................................ 429

**DCU Participation in WMT2013 Metrics Task**  
Xiaofeng Wu, Hui Yu and Qun Liu ........................................................................... 435

**Efficient Solutions for Word Reordering in German-English Phrase-Based Statistical Machine Translation**  
Arianna Bisazza and Marcello Federico .................................................................... 440

**A Phrase Orientation Model for Hierarchical Machine Translation**  
Matthias Huck, Joern Wuebker, Felix Rietig and Hermann Ney ............................. 452

**A Dependency-Constrained Hierarchical Model with Moses**  
Yvette Graham ............................................................................................................ 464

**Investigations in Exact Inference for Hierarchical Translation**  
Wilker Aziz, Marc Dymetman and Sriram Venkatapathy ......................................... 472

**Evaluating (and Improving) Sentence Alignment under Noisy Conditions**  
Omar Zaidan and Vishal Chowdhary ....................................................................... 484

**Multi-Rate HMMs for Word Alignment**  
Elif Eyigöz, Daniel Gildea and Kemal Oflazer ......................................................... 494

**Hidden Markov Tree Model for Word Alignment**  
Shuhei Kondo, Kevin Duh and Yuji Matsumoto ....................................................... 503

**An MT Error-Driven Discriminative Word Lexicon using Sentence Structure Features**  
Jan Niehues and Alex Waibel ................................................................................... 512
Conference Program

Thursday, August 8, 2013

9:00–9:10 Opening Remarks

Session 1: Shared Tasks and their Evaluation

9:10–10:10 Findings of the 2013 Workshop on Statistical Machine Translation
Ondřej Bojar, Christian Buck, Chris Callison-Burch, Christian Federmann, Barry Haddow, Philipp Koehn, Christof Monz, Matt Post, Radu Soricut and Lucia Specia

Results of the WMT13 Metrics Shared Task
Matouš Macháček and Ondřej Bojar

10:10–10:30 The Feasibility of HMEANT as a Human MT Evaluation Metric
Alexandra Birch, Barry Haddow, Ulrich Germann, Maria Nadejde, Christian Buck and Philipp Koehn

10:30–11:00 Coffee

Session 2: Poster Session

11:00–12:30 Shared Task: Translation

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Feature Decay Algorithms for Fast Deployment of Accurate Statistical Machine Translation Systems
Ergun Bicici

CUni Multilingual Matrix in the WMT 2013 Shared Task
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Thursday, August 8, 2013 (continued)

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*The RWTH Aachen Machine Translation System for WMT 2013*
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12:30–14:00 Lunch Break
Thursday, August 8, 2013 (continued)

Session 3: Invited Talk

14:00–15:10 Andreas Eisele: MT@EC: Serving the multilingual needs of the European Commission

Session 4: Quality Estimation

15:10–15:30 Coping with the Subjectivity of Human Judgements in MT Quality Estimation
Marco Turchi, Matteo Negri and Marcello Federico

15:30–16:00 Coffee Break

Session 5: Translation Models

16:00–16:20 Online Polylingual Topic Models for Fast Document Translation Detection
Kriste Krstovski and David A. Smith

16:20–16:40 Combining Bilingual and Comparable Corpora for Low Resource Machine Translation
Ann Irvine and Chris Callison-Burch

16:40–17:00 Generating English Determiners in Phrase-Based Translation with Synthetic Translation Options
Yulia Tsvetkov, Chris Dyer, Lori Levin and Archna Bhatia

17:00–17:20 Dramatically Reducing Training Data Size Through Vocabulary Saturation
William Lewis and Sauleh Eetemadi

Friday, August 9, 2013
Session 6: Learning

9:00–9:20  Multi-Task Learning for Improved Discriminative Training in SMT
Patrick Simianer and Stefan Riezler

9:20–9:40  Online Learning Approaches in Computer Assisted Translation
Prashant Mathur, Cettolo Mauro and Marcello Federico

9:40–10:00  Length-Incremental Phrase Training for SMT
Joern Wuebker and Hermann Ney

10:00–10:20  Positive Diversity Tuning for Machine Translation System Combination
Daniel Cer, Christopher D. Manning and Dan Jurafsky

10:20–11:00  Coffee Break

Session 7: Poster Session

11:00–12:30  Shared Task: Quality Estimation

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Friday, August 9, 2013 (continued)

*MT Quality Estimation: The CMU System for WMT'13*
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11:00–12:30 Shared Task: Evaluation

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Xiaofeng Wu, Hui Yu and Qun Liu

12:30–14:00 Lunch Break
Friday, August 9, 2013 (continued)

**Session 8: Reordering and Hierarchical Models**

14:00–14:20  *Efficient Solutions for Word Reordering in German-English Phrase-Based Statistical Machine Translation*
Arianna Bisazza and Marcello Federico

14:20–14:40  *A Phrase Orientation Model for Hierarchical Machine Translation*
Matthias Huck, Joern Wuebker, Felix Rietig and Hermann Ney

14:40–15:00  *A Dependency-Constrained Hierarchical Model with Moses*
Yvette Graham

15:00–15:20  *Investigations in Exact Inference for Hierarchical Translation*
Wilker Aziz, Marc Dymetman and Sriram Venkatapathy

15:20–16:00  Coffee Break

**Session 9: Alignment and Word Translation Models**

16:00–16:20  *Evaluating (and Improving) Sentence Alignment under Noisy Conditions*
Omar Zaidan and Vishal Chowdhary

16:20–16:40  *Multi-Rate HMMs for Word Alignment*
Elif Eyigöz, Daniel Gildea and Kemal Oflazer

16:40–17:00  *Hidden Markov Tree Model for Word Alignment*
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