Fourth Conference on
Machine Translation

Proceedings of the Conference

Volume 1: Research Papers
Introduction

The Fourth Conference on Machine Translation (WMT 2019) took place on Thursday, August 1 and Friday, August 2, 2019 in Florence, Italy, immediately following the 57th Annual Meeting of the Association for Computational Linguistics (ACL 2019).

This is the fourth time WMT has been held as a conference. The first time WMT was held as a conference was at ACL 2016 in Berlin, Germany, the second time at EMNLP 2017 in Copenhagen, Denmark, and the third time at EMNLP 2018 in Brussels, Belgium. Prior to being a conference, WMT was held 10 times as a workshop. WMT was held for the first time 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, NAACL 2012 in Montreal, Canada, ACL 2013 in Sofia, Bulgaria, ACL 2014 in Baltimore, USA, and EMNLP 2015 in Lisbon, Portugal.

The focus of our conference is to bring together researchers from the area of machine translation and invite selected research papers to be presented at the conference.

Prior to the conference, in addition to soliciting relevant papers for review and possible presentation, we conducted 8 shared tasks. This consisted of four translation tasks: Machine Translation of News, Biomedical Translation, Robust Machine Translation, and Similar Language Translation, two evaluation tasks: Metrics and Quality Estimation, as well as the Automatic Post-Editing and Parallel Corpus Filtering tasks.

The results of all shared tasks were announced at the conference, and these proceedings also include overview papers for the shared tasks, summarizing the results, as well as providing information about the data used and any procedures that were followed in conducting or scoring the tasks. 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 submissions than we could accept for presentation. WMT 2019 has received 48 full research paper submissions (not counting withdrawn submissions). In total, WMT 2019 featured 12 full research paper oral presentations and 102 shared task poster presentations.

The invited talk was given by Marine Carpuat from the University of Maryland, College Park, USA. It was titled “Semantic, Style & Other Data Divergences in Neural Machine Translation”.

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, Rajen Chatterjee, Christian Federmann, Mark Fishel, Yvette Graham, Barry Haddow, Matthias Huck, Antonio Jimeno Yepes, Philipp Koehn, André Martins, Christof Monz, Matteo Negri, Aurélie Névéol, Mariana Neves, Matt Post, Marco Turchi, and Karin Verspoor

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Marine Carpuat (University of Maryland, College Park)

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Xuan Zhang (Johns Hopkins University)
**Table of Contents**

*Saliency-driven Word Alignment Interpretation for Neural Machine Translation*
   Shuoyang Ding, Hainan Xu and Philipp Koehn ..................................................... 1

*Improving Zero-shot Translation with Language-Independent Constraints*
   Ngoc-Quan Pham, Jan Niehues, Thanh-Le Ha and Alexander Waibel ......................... 13

*Incorporating Source Syntax into Transformer-Based Neural Machine Translation*
   Anna Currey and Kenneth Heafield ................................................................. 24

*APE at Scale and Its Implications on MT Evaluation Biases*
   Markus Freitag, Isaac Caswell and Scott Roy ................................................... 34

*Generalizing Back-Translation in Neural Machine Translation*
   Miguel Graça, Yunsu Kim, Julian Schamper, Shahram Khadivi and Hermann Ney ............ 45

*Tagged Back-Translation*
   Isaac Caswell, Ciprian Chelba and David Grangier ........................................... 53

*Hierarchical Document Encoder for Parallel Corpus Mining*
   Mandy Guo, Yinfei Yang, Keith Stevens, Daniel Cer, Heming Ge, Yun-hsuan Sung, Brian Strope and Ray Kurzweil .......................................................... 64

*The Effect of Translationese in Machine Translation Test Sets*
   Mike Zhang and Antonio Toral .............................................................................. 73

*Customizing Neural Machine Translation for Subtitling*
   Evgeny Matusov, Patrick Wilken and Yota Georgakopoulou ..................................... 82

*Integration of Dubbing Constraints into Machine Translation*
   Ashutosh Saboo and Timo Baumann ................................................................. 94

*Widening the Representation Bottleneck in Neural Machine Translation with Lexical Shortcuts*
   Denis Emelin, Ivan Titov and Rico Sennrich ...................................................... 102

*A High-Quality Multilingual Dataset for Structured Documentation Translation*
   Kazuma Hashimoto, Raffaella Buschiazzo, James Bradbury, Teresa Marshall, Richard Socher and Caiming Xiong ................................................................. 116
Conference Program

Thursday, August 1, 2019

8:45–9:00 Opening Remarks

9:00–10:30 Session 1: Shared Tasks Overview Presentations I (chair: Barry Haddow)

9:00–9:35 Findings of the 2019 Conference on Machine Translation (WMT19)
Loïc Barrault, Ondřej Bojar, Marta R. Costa-jussà, Christian Federmann, Mark Fishel, Yvette Graham, Barry Haddow, Matthias Huck, Philipp Koehn, Shervin Malmasi, Christof Monz, Mathias Müller, Santanu Pal, Matt Post and Marcos Zampieri

9:35–9:50 Test Suites

9:50–10:10 Results of the WMT19 Metrics Shared Task: Segment-Level and Strong MT Systems Pose Big Challenges
Qingsong Ma, Johnny Wei, Ondřej Bojar and Yvette Graham

10:10–10:30 Findings of the First Shared Task on Machine Translation Robustness
Xian Li, Paul Michel, Antonios Anastasopoulos, Yonatan Belinkov, Nadir Durranı, Orhan Firat, Philipp Koehn, Graham Neubig, Juan Pino and Hassan Sajjad

10:30-11:00 Coffee Break

11:00–12:30 Session 2: Shared Task Poster Session I

11:00–12:30 Shared Task: News Translation

The University of Edinburgh’s Submissions to the WMT19 News Translation Task
Rachel Bawden, Nikolay Bogoychev, Ulrich Germann, Roman Grundkiewicz, Faheem Kirefu, Antonio Valerio Miceli Barone and Alexandra Birch

GTCOM Neural Machine Translation Systems for WMT19
Chao Bei, Hao Zong, Conghu Yuan, Qingming Liu and Baoyong Fan

Machine Translation with parfda, Moses, kenlm, nplm, and PRO
Ergun Biçici
LIUM’s Contributions to the WMT2019 News Translation Task: Data and Systems for German-French Language Pairs  
Fethi Bougares, Jane Wottawa, Anne Baillot, Loïc Barrault and Adrien Bardet

The University of Maryland’s Kazakh-English Neural Machine Translation System at WMT19  
Eleftheria Briakou and Marine Carpuat

DBMS-KU Interpolation for WMT19 News Translation Task  
Sari Dewi Budiwati, Al Hafiz Akbar Maulana Siagian, Tirana Noor Fatyanosa and Masayoshi Arisugi

Lingua Custodia at WMT’19: Attempts to Control Terminology  
Franck Burlot

The TALP-UPC Machine Translation Systems for WMT19 News Translation Task: Pivoting Techniques for Low Resource MT  
Noe Casas, José A. R. Fonollosa, Carlos Escolano, Christine Basta and Marta R. Costa-jussà

Kyoto University Participation to the WMT 2019 News Shared Task  
Fabien Cromieres and Sadao Kurohashi

NICT’s Supervised Neural Machine Translation Systems for the WMT19 News Translation Task  
Raj Dabre, Kehai Chen, Benjamin Marie, Rui Wang, Atsushi Fujita, Masao Utiyama and Eiichiro Sumita

The University of Sydney’s Machine Translation System for WMT19  
Liang Ding and Dacheng Tao

UdS-DFKI Participation at WMT 2019: Low-Resource (en-gu) and Coreference-Aware (en-de) Systems  
Cristina España-Bonet and Dana Ruiter

The IIIT-H Gujarati-English Machine Translation System for WMT19  
Vikrant Goyal and Dipti Misra Sharma

Kingsoft’s Neural Machine Translation System for WMT19  
Xinze Guo, Chang Liu, Xiaolong Li, Yiran Wang, Guoliang Li, Feng Wang, Zhitao Xu, Liuyi Yang, Li Ma and Changliang Li

The AFRL WMT19 Systems: Old Favorites and New Tricks  
Jeremy Gwinnup, Grant Erdmann and Tim Anderson
Thursday, August 1, 2019 (continued)

Evaluating the Supervised and Zero-shot Performance of Multi-lingual Translation Models
Chris Hokamp, John Glover and Demian Gholipour Ghalandari

The MLLP-UPV Supervised Machine Translation Systems for WMT19 News Translation Task
Javier Iranzo-Sánchez, Gonçal Garcés Díaz-Munío, Jorge Civera and Alfons Juan

Microsoft Translator at WMT 2019: Towards Large-Scale Document-Level Neural Machine Translation
Marcin Junczys-Dowmunt

CUNI Submission for Low-Resource Languages in WMT News 2019
Tom Kocmi and Ondřej Bojar

CUNI Systems for the Unsupervised News Translation Task in WMT 2019
Ivana Kvapilíková, Dominik Macháček and Ondřej Bojar

A Comparison on Fine-grained Pre-trained Embeddings for the WMT19 Chinese-English News Translation Task
Zhenhao Li and Lucia Specia

The NiuTrans Machine Translation Systems for WMT19
Bei Li, Yinqiao Li, Chen Xu, Ye Lin, Jiqiang Liu, Hui Liu, Ziyang Wang, Yuhao Zhang, Nuo Xu, Zeyang Wang, Kai Feng, Hexuan Chen, Tengbo Liu, Yanyang Li, Qiang Wang, Tong Xiao and Jingbo Zhu

Multi-Source Transformer for Kazakh-Russian-English Neural Machine Translation
Patrick Littell, Chi-kiu Lo, Samuel Larkin and Darlene Stewart

Incorporating Word and Subword Units in Unsupervised Machine Translation Using Language Model Rescoring
Zihan Liu, Yan Xu, Genta Indra Winata and Pascale Fung

JUMT at WMT2019 News Translation Task: A Hybrid Approach to Machine Translation for Lithuanian to English
Sainik Kumar Mahata, Avishek Garain, Adityar Rayala, Dipankar Das and Sivaji Bandyopadhyay

Johns Hopkins University Submission for WMT News Translation Task
Kelly Marchisio, Yash Kumar Lal and Philipp Koehn

NIC’s Unsupervised Neural and Statistical Machine Translation Systems for the WMT19 News Translation Task
Benjamin Marie, Haipeng Sun, Rui Wang, Kehai Chen, Atsushi Fujita, Masao Utiyama and Eiichiro Sumita
Thursday, August 1, 2019 (continued)

**PROMT Systems for WMT 2019 Shared Translation Task**
Alexander Molchanov

**JU-Saarland Submission to the WMT2019 English–Gujarati Translation Shared Task**
Riktim Mondal, Shankha Raj Nayek, Aditya Chowdhury, Santanu Pal, Sudip Kumar Naskar and Josef van Genabith

**Facebook FAIR’s WMT19 News Translation Task Submission**
Nathan Ng, Kyra Yee, Alexei Baevski, Myle Ott, Michael Auli and Sergey Edunov

**eTranslation’s Submissions to the WMT 2019 News Translation Task**
Csaba Oravecz, Katina Bontcheva, Adrien Lardilleux, László Tihanyi and Andreas Eisele

**Tilde’s Machine Translation Systems for WMT 2019**
Marcis Pinnis, Rihards Krišļauks and Matiss Rikters

**Apertium-fin-eng–Rule-based Shallow Machine Translation for WMT 2019 Shared Task**
Tommi Pirinen

**English-Czech Systems in WMT19: Document-Level Transformer**
Martin Popel, Dominik Macháček, Michal Auersperger, Ondřej Bojar and Pavel Pecina

**The RWTH Aachen University Machine Translation Systems for WMT 2019**
Jan Rosendahl, Christian Herold, Yunsu Kim, Miguel Graça, Weiyue Wang, Parnia Bahar, Yingbo Gao and Hermann Ney

**The Universitat d’Alacant Submissions to the English-to-Kazakh News Translation Task at WMT 2019**
Víctor M. Sánchez-Cartagena, Juan Antonio Pérez-Ortiz and Felipe Sánchez-Martínez

**CUED@WMT19:EWC&LMs**
Felix Stahlberg, Danielle Saunders, Adrià de Gispert and Bill Byrne

**Baidu Neural Machine Translation Systems for WMT19**
Meng Sun, Bojian Jiang, Hao Xiong, Zhongjun He, Hua Wu and Haifeng Wang

**University of Tartu’s Multilingual Multi-domain WMT19 News Translation Shared Task Submission**
Andre Tättar, Elizaveta Korotkova and Mark Fishel
Neural Machine Translation for English–Kazakh with Morphological Segmentation and Synthetic Data
Antonio Toral, Lukas Edman, Galiya Yeshmagambetova and Jennifer Spenader

The LMU Munich Unsupervised Machine Translation System for WMT19
Dario Stojanovski, Viktor Hangya, Matthias Huck and Alexander Fraser

Combining Local and Document-Level Context: The LMU Munich Neural Machine Translation System at WMT19
Dario Stojanovski and Alexander Fraser

IITP-MT System for Gujarati-English News Translation Task at WMT 2019
Sukanta Sen, Kamal Kumar Gupta, Asif Ekbal and Pushpak Bhattacharyya

The University of Helsinki Submissions to the WMT19 News Translation Task
Aarne Talman, Umut Sulubacak, Raúl Vázquez, Yves Scherrer, Sami Virpioja, Alessandro Raganato, Arvi Hurskainen and Jörg Tiedemann

Microsoft Research Asia’s Systems for WMT19
Yingce Xia, Xu Tan, Fei Tian, Fei Gao, Di He, Weicong Chen, Yang Fan, Linyuan Gong, Yichong Leng, Renqian Luo, Yiren Wang, Lijun Wu, Jinhua Zhu, Tao Qin and Tie-Yan Liu

The En-Ru Two-way Integrated Machine Translation System Based on Transformer
Doron Yu

DFKI-NMT Submission to the WMT19 News Translation Task
Jingyi Zhang and Josef van Genabith

11:00–12:30  Shared Task: Test Suites

Linguistic Evaluation of German-English Machine Translation Using a Test Suite
Eleftherios Avramidis, Vivien Macketanz, Ursula Strohriegel and Hans Uszkoreit

A Test Suite and Manual Evaluation of Document-Level NMT at WMT19
Kateřina Rysová, Magdaléna Rysovič, Tomáš Musil, Lucie Poláková and Ondřej Bojar

Evaluating Conjunction Disambiguation on English-to-German and French-to-German WMT 2019 Translation Hypotheses
Maja Popović
Thursday, August 1, 2019 (continued)

*The MuCoW Test Suite at WMT 2019: Automatically Harvested Multilingual Contrastive Word Sense Disambiguation Test Sets for Machine Translation*
Alessandro Raganato, Yves Scherrer and Jörg Tiedemann

*SAO WMT19 Test Suite: Machine Translation of Audit Reports*
Tereza Vojtěchová, Michal Novák, Miloš Klouček and Ondřej Bojar

11:00–12:30  **shared task: metrics**

**WMDO: Fluency-based Word Mover’s Distance for Machine Translation Evaluation**
Julian Chow, Lucia Specia and Pranava Madhyastha

**Meteor++ 2.0: Adopt Syntactic Level Paraphrase Knowledge into Machine Translation Evaluation**
Yinuo Guo and Junfeng Hu

**YiSi - a Unified Semantic MT Quality Evaluation and Estimation Metric for Languages with Different Levels of Available Resources**
Chi-kiu Lo

**EED: Extended Edit Distance Measure for Machine Translation**
Peter Stanchev, Weiyue Wang and Hermann Ney

**Filtering Pseudo-References by Paraphrasing for Automatic Evaluation of Machine Translation**
Ryoma Yoshimura, Hiroki Shimanaka, Yukio Matsumura, Hayahide Yamagishi and Mamoru Komachi

11:00–12:30  **shared task: robustness**

**Naver Labs Europe’s Systems for the WMT19 Machine Translation Robustness Task**
Alexandre Berard, Ioan Calapodescu and Claude Roux

**NICT’s Supervised Neural Machine Translation Systems for the WMT19 Translation Robustness Task**
Raj Dabre and Eiichiro Sumita

**System Description: The Submission of FOKUS to the WMT 19 Robustness Task**
Cristian Grozea
Thursday, August 1, 2019 (continued)

_CUNI System for the WMT19 Robustness Task_
Jindřich Helcl, Jindřich Libovický and Martin Popel

_NTT’s Machine Translation Systems for WMT19 Robustness Task_
Soichiro Murakami, Makoto Morishita, Tsutomu Hirao and Masaaki Nagata

_JHU 2019 Robustness Task System Description_
Matt Post and Kevin Duh

Robust Machine Translation with Domain Sensitive Pseudo-Sources: Baidu-OSU
WMT19 MT Robustness Shared Task System Report
Renjie Zheng, Hairong Liu, Mingbo Ma, Baigong Zheng and Liang Huang

Improving Robustness of Neural Machine Translation with Multi-task Learning
Shuyan Zhou, Xiangkai Zeng, Yingqi Zhou, Antonios Anastasopoulos and Graham Neubig

12:30–14:00 *Lunch*

14:00–15:30 Panel on "Open Problems in Machine Translation" (chair Ondrej Bojar):
Alex Fraser (Ludwig-Maximilians-Universität München), Alon Lavie (Unbabel), Marcin Junczys-Dowmunt (Microsoft), Yvette Graham (Dublin City University)

15:30–16:00 *Coffee Break*

16:00–17:30 Session 4: Research Papers on Modeling and Analysis (chair: Matthias Huck)

16:00–16:15 Saliency-driven Word Alignment Interpretation for Neural Machine Translation
Shuoyang Ding, Hainan Xu and Philipp Koehn

16:15–16:30 Improving Zero-shot Translation with Language-Independent Constraints
Ngoc-Quan Pham, Jan Niehues, Thanh-Le Ha and Alexander Waibel

16:30–16:45 Incorporating Source Syntax into Transformer-Based Neural Machine Translation
Anna Currey and Kenneth Heafield
Thursday, August 1, 2019 (continued)

16:45–17:00  *APE at Scale and Its Implications on MT Evaluation Biases*
Markus Freitag, Isaac Caswell and Scott Roy

17:00–17:15  *Generalizing Back-Translation in Neural Machine Translation*
Miguel Graça, Yunsu Kim, Julian Schamper, Shahram Khadivi and Hermann Ney

17:15–17:30  *Tagged Back-Translation*
Isaac Caswell, Ciprian Chelba and David Grangier

Friday, August 2, 2019

9:00–10:30  **Session 5: Shared Tasks Overview Presentations II (chair: Mark Fishel)**

9:00–9:20  *Findings of the WMT 2019 Shared Tasks on Quality Estimation*
Erick Fonseca, Lisa Yankovskaya, André F. T. Martins, Mark Fishel and Christian Federmann

9:20–9:40  *Findings of the WMT 2019 Shared Task on Automatic Post-Editing*
Rajen Chatterjee, Christian Federmann, Matteo Negri and Marco Turchi

9:40–10:00  *Findings of the WMT 2019 Biomedical Translation Shared Task: Evaluation for MEDLINE Abstracts and Biomedical Terminologies*
Rachel Bawden, Kevin Bretonnel Cohen, Cristian Grozea, Antonio Jimeno Yepes, Madeleine Kittner, Martin Krallinger, Nancy Mah, Aurelie Neveol, Mariana Neves, Felipe Soares, Amy Siu, Karin Verspoor and Maika Vicente Navarro

10:00–10:15  **Shared Task on Similar Languages**

10:15–10:30  *Findings of the WMT 2019 Shared Task on Parallel Corpus Filtering for Low-Resource Conditions*
Philipp Koehn, Francisco Guzmán, Vishrav Chaudhary and Juan Pino

10:30–11:00  **Coffee Break**
11:00–12:30  Session 2: Shared Task Poster Session I

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

**RTM Stacking Results for Machine Translation Performance Prediction**
Ergun Biçici

_Unbabel’s Participation in the WMT19 Translation Quality Estimation Shared Task_
Fabio Kepler, Jonay Trénous, Marcos Treviso, Miguel Vera, António Góis, M. Amin Farajian, António V. Lopes and André F. T. Martins

_QE BERT: Bilingual BERT Using Multi-task Learning for Neural Quality Estimation_
Hyun Kim, Joon-Ho Lim, Hyun-Ki Kim and Seung-Hoon Na

_MIPT System for World-Level Quality Estimation_
Mikhail Mosyagin and Varvara Logacheva

_NJU Submissions for the WMT19 Quality Estimation Shared Task_
Hou Qi

_Quality Estimation and Translation Metrics via Pre-trained Word and Sentence Embeddings_
Elizaveta Yankovskaya, Andre Tättar and Mark Fishel

_SOURCE: SOURce-Conditional Elmo-style Model for Machine Translation Quality Estimation_
Junpei Zhou, Zhisong Zhang and Zecong Hu

11:00–12:30  Shared Task: Automatic Post-Editing

**Transformer-based Automatic Post-Editing Model with Joint Encoder and Multi-source Attention of Decoder**
WonKee Lee, Jaehun Shin and Jong-Hyeok Lee

_Unbabel’s Submission to the WMT2019 APE Shared Task: BERT-Based Encoder-Decoder for Automatic Post-Editing_
António V. Lopes, M. Amin Farajian, Gonçalo M. Correia, Jonay Trénous and André F. T. Martins
Friday, August 2, 2019 (continued)

USAAR-DFKI – The Transference Architecture for English–German Automatic Post-Editing
Santanu Pal, Hongfei Xu, Nico Herbig, Antonio Krüger and Josef van Genabith

APE through Neural and Statistical MT with Augmented Data. ADAPT/DCU Submission to the WMT 2019 APE Shared Task
Dimitar Shterionov, Joachim Wagner and Félix do Carmo

Effort-Aware Neural Automatic Post-Editing
Amirhossein Tebbifakhr, Matteo Negri and Marco Turchi

UdS Submission for the WMT 19 Automatic Post-Editing Task
Hongfei Xu, Qiuhui Liu and Josef van Genabith

11:00–12:30 Shared Task: Biomedical Translation

Terminology-Aware Segmentation and Domain Feature for the WMT19 Biomedical Translation Task
Casimiro Pio Carrino, Bardia Rafieian, Marta R. Costa-jussà and José A. R. Fonollosa

Exploring Transfer Learning and Domain Data Selection for the Biomedical Translation
Noor-e- Hira, Sadaf Abdul Rauf, Kiran Kiani, Ammara Zafar and Raheel Nawaz

Huawei’s NMT Systems for the WMT 2019 Biomedical Translation Task
Wei Peng, Jianfeng Liu, Liangyou Li and Qun Liu

UCAM Biomedical Translation at WMT19: Transfer Learning Multi-domain Ensembles
Danielle Saunders, Felix Stahlberg and Bill Byrne

BSC Participation in the WMT Translation of Biomedical Abstracts
Felipe Soares and Martin Krallinger

11:00–12:30 Shared Task: Similar Languages

The MLLP-UPV Spanish-Portuguese and Portuguese-Spanish Machine Translation Systems for WMT19 Similar Language Translation Task
Pau Baquero-Armal, Javier Iranzo-Sánchez, Jorge Civera and Alfons Juan

xx
The TALP-UPC System for the WMT Similar Language Task: Statistical vs Neural Machine Translation
Magdalena Biesialska, Lluis Guardia and Marta R. Costa-jussà

Machine Translation from an Intercomprehension Perspective
Yu Chen and Tania Avgustinova

Utilizing Monolingual Data in NMT for Similar Languages: Submission to Similar Language Translation Task
Jyotsana Khatri and Pushpak Bhattacharyya

Neural Machine Translation: Hindi-Nepali
Sahinur Rahman Laskar, Partha Pakray and Sivaji Bandyopadhyay

NICT’s Machine Translation Systems for the WMT19 Similar Language Translation Task
Benjamin Marie, Raj Dabre and Atsushi Fujita

Panlingua-KMI MT System for Similar Language Translation Task at WMT 2019
Atul Kr. Ojha, Ritesh Kumar, Akanksha Bansal and Priya Rani

UDS–DFKI Submission to the WMT2019 Czech–Polish Similar Language Translation Shared Task
Santanu Pal, Marcos Zampieri and Josef van Genabith

Neural Machine Translation of Low-Resource and Similar Languages with Back-translation
Michael Przystupa and Muhammad Abdul-Mageed

The University of Helsinki Submissions to the WMT19 Similar Language Translation Task
Yves Scherrer, Raúl Vázquez and Sami Virpioja

11:00–12:30 Shared Task: Parallel Corpus Filtering

Dual Monolingual Cross-Entropy Delta Filtering of Noisy Parallel Data
Amittai Axelrod, Anish Kumar and Steve Sloto

NRC Parallel Corpus Filtering System for WMT 2019
Gabriel Bernier-Colborne and Chi-kiu Lo
Low-Resource Corpus Filtering Using Multilingual Sentence Embeddings
Vishrav Chaudhary, Yuqing Tang, Francisco Guzmán, Holger Schwenk and Philipp Koehn

Quality and Coverage: The AFRL Submission to the WMT19 Parallel Corpus Filtering for Low-Resource Conditions Task
Grant Erdmann and Jeremy Gwinnup

Webinterpret Submission to the WMT2019 Shared Task on Parallel Corpus Filtering
Jesús González-Rubio

Noisy Parallel Corpus Filtering through Projected Word Embeddings
Murathan Kurfalı and Robert Östling

Filtering of Noisy Parallel Corpora Based on Hypothesis Generation
Zuzanna Parcheta, Germán Sanchis-Trilles and Francisco Casacuberta

Parallel Corpus Filtering Based on Fuzzy String Matching
Sukanta Sen, Asif Ekbal and Pushpak Bhattacharyya

The University of Helsinki Submission to the WMT19 Parallel Corpus Filtering Task
Raúl Vázquez, Umut Sulubacak and Jörg Tiedemann

12:30–14:00  Lunch
Friday, August 2, 2019 (continued)

14:00–15:30  Session 7: Invited Talk (chair: Matt Post)

14:00–15:30  Marine Carpuat (University of Maryland): Semantic, Style and Other Data Divergences in Neural Machine Translation

15:30–16:00  Coffee Break

16:00–17:30  Session 8: Research Papers on Applications (chair: Marco Turchi)

16:00–16:15  Hierarchical Document Encoder for Parallel Corpus Mining
  Mandy Guo, Yinfei Yang, Keith Stevens, Daniel Cer, Heming Ge, Yun-hsuan Sung, Brian Strope and Ray Kurzweil

16:15–16:30  The Effect of Translationese in Machine Translation Test Sets
  Mike Zhang and Antonio Toral

16:30–16:45  Customizing Neural Machine Translation for Subtitling
  Evgeny Matusov, Patrick Wilken and Yota Georgakopoulou

16:45–17:00  Integration of Dubbing Constraints into Machine Translation
  Ashutosh Saboo and Timo Baumann

17:00–17:15  Widening the Representation Bottleneck in Neural Machine Translation with Lexical Shortcuts
  Denis Emelin, Ivan Titov and Rico Sennrich

17:15–17:30  A High-Quality Multilingual Dataset for Structured Documentation Translation
  Kazuma Hashimoto, Raffaella Buschiazzo, James Bradbury, Teresa Marshall, Richard Socher and Caiming Xiong