Rui Wang

Researcher (tenured)
National Institute of Information
and Communications Technology (NICT)
Kyoto, Japan.

Phone: (+81) 0774-98-6986
Email: wangrui@nict.go.jp
Homepage: https://wangruinlp.github.io

Experience

2020- Tenured Researcher, Advanced Translation Technology Laboratory, NICT, Kyoto, Japan.

2019- Tenure-track Researcher, Advanced Translation Technology Laboratory, NICT, Kyoto, Japan.

2016-2019: Postdoctoral Researcher, Advanced Translation Technology Laboratory, NICT, Kyoto, Japan.

2012-2016: Ph.D. in Computer Science, Shanghai Jiao Tong University, working with Prof. Bao-Liang Lu and Prof. Hai Zhao, Shanghai, China.
——2014: Joint Ph.D., CNRS-University Lyon1, Lyon, France.
——2013: Internship Research Fellow, NICT, Kyoto, Japan.

2009-2012: Master in Computer Science, University of Chinese Academy of Sciences, working with Prof. Xiao li and Prof. Xi Zhou, Beijing & Urumqi, China.

2005-2009: Bachelor in Computer Science, Harbin Institute of Technology, working with Prof. Peng Liu, Harbin, China.

Grants and Fundings

2019-2021: PI of NICT tenure-track startup fund: "Toward Intelligent MT" (8,000,000JPY).

2019-2022 (19K20354): PI of JSPS grant-in-aid for early-career scientists (national fund of Japan): "Unsupervised NMT in Universal Scenarios" (4,180,000JPY).

Academic Services

Area co-chair of ICLR-2021, CCL-2019, and CCL-2018.

Organization co-chair of PACLIC-29 and YCCL-2012.

PC member of ACL, ICLR, EMNLP, NAACL, COLING, IJCNLP, AACL, IJCNN, AAAI, IJCAI, etc.

Reviewer of JSPS national fund, Computational Linguistics (standing reviewer), Transactions of the Association for Computational Linguistic (standing reviewer), IEEE/ACM TASLP, TALLIP, Computer Speech and Language, Neurocomputing, Neural Processing Letters, Language Resources and Evaluation, etc.

Hosting and Supervising

Postdoctoral/Technical Researcher: Kehai Chen (2018-).

Intern 2019 @NICT: Zhuosheng Zhang (SJTU), Zuchao Li (SJTU), Chaoqun Duan (HIT), and Fengshun Xiao (SJTU).

Intern 2018 @NICT: Haipeng Sun (HIT), Shu Jiang (SJTU), and Mingming Yang (HIT/Soochow University).

Intern 2017 @NICT: Kehai Chen (HIT) and Zhisong Zhang (SJTU).

Selected Publications ("*" denotes the corresponding author)

Shared Tasks

CONLL-2019 (Corresponding author): 1st in the DM sub-task and the 2nd overall.

WMT-2019 (Corresponding author): 1st in the only unsupervised MT task (German-Czech).

WMT-2018 (Second author): 1st places in four tasks (English<->Estonian and English<->Finnish).

WAT-2018 (First author): 1st places in Myanmar (Burmese) <-- English by BLEU.

Journal Articles

Towards More Diverse Input Representation for Neural Machine Translation
Kehai Chen, **Rui Wang***, Masao Utiyama, Eiichro Sumita, Tiejun Zhao, Muyun Yang, and Hai Zhao.
IEEE/ACM Transactions on Audio, Speech, and Language Processing (TASLP), accepted

Unsupervised Neural Machine Translation with Cross-lingual Language Representation Agreement
Haipeng Sun, **Rui Wang** (as the supervisor), Kehai Chen, Masao Utiyama, Eiichro Sumita, and Tiejun Zhao
IEEE/ACM Transactions on Audio, Speech, and Language Processing (TASLP), accepted

Neural Machine Translation with Sentence-level Topic Context
Kehai Chen, **Rui Wang** (as the supervisor), Masao Utiyama, Eiichro Sumita, and Tiejun Zhao.
IEEE/ACM Transactions on Audio, Speech, and Language Processing (TASLP), Volume 27, Issue 12, 2019.

Sentence Selection and Weighting for Neural Machine Translation Domain Adaptation.
Rui Wang, Masao Utiyama, Andrew Finch, Lemao Liu, Kehai Chen, and Eiichro Sumita.
IEEE/ACM Transactions on Audio, Speech, and Language Processing (TASLP), Volume 26, Issue 10, 2018.

Graph-based BilingualWord Embedding for Statistical Machine Translation.
Rui Wang, Hai Zhao*, Bao-Liang Lu, Sabine Ploux*, Masao Utiyama, and Eiichro Sumita.
ACM Transactions on Asian and Low-Resource Language Information Processing (TALLIP), Volume 17, Issue 4, 2018.

A Neural Approach to Source Dependency-Based Context Model for Statistical Machine Translation.
Kehai Chen, Tiejun Zhao, Muyun Yang, Lemao Liu*, Akihiro Tamura, **Rui Wang**, Masao Utiyama, and Eiichro Sumita.
IEEE/ACM Transactions on Audio, Speech, and Language Processing (TASLP), Volume 26, Issue 2, 2017.

Converting Continuous-Space Language Models into N-gram Language Models with Efficient Bilingual Pruning for Statistical Machine Translation.
Rui Wang, Masao Utiyama*, Isao Goto, Eiichro Sumita, Hai Zhao*, and Bao-Liang Lu.
ACM Transactions on Asian and Low-Resource Language Information Processing (TALLIP), Volume 15, Issue 3, 2016.

Bilingual Continuous-Space Language Model Growing for Statistical Machine Translation.
Rui Wang, Hai Zhao*, Bao-Liang Lu, Masao Utiyama, and Eiichro Sumita.
IEEE/ACM Transactions on Audio, Speech, and Language Processing (TASLP), Volume:23, Issue:7, 2015.

Conference Proceedings

Content Word Aware Neural Machine Translation
Kehai Chen, **Rui Wang***, Masao Utiyama, and Eiichiro Sumita
The 58th Annual Meeting of the Association for Computational Linguistics (ACL-2020), Seattle, USA

Knowledge Distillation for Multilingual Unsupervised Neural Machine Translation
Haipeng Sun, **Rui Wang***, Kehai Chen, Masao Utiyama, Eiichiro Sumita, and Tiejun Zhao*
The 58th Annual Meeting of the Association for Computational Linguistics (ACL-2020), Seattle, USA

Regularized Context Gates on Transformer for Machine Translation
Xintong Li, Lemao Liu, **Rui Wang**, Guoping Huang, and Max Meng
The 58th Annual Meeting of the Association for Computational Linguistics (ACL-2020), Seattle, USA

Data-dependent Gaussian Prior Objective for Language Generation
Zuchao Li, **Rui Wang***, Kehai Chen, Masao Utiyama, Eiichiro Sumita, Zhuosheng Zhang, and Hai Zhao*
International Conference on Learning Representations (ICLR-2020), Addis Ababa, Ethiopia
Note: this is a full-score paper (34/2500+) and a long-time talk presentation

Neural Machine Translation with Universal Visual Representation
Zhuosheng Zhang, Kehai Chen, **Rui Wang***, Masao Utiyama, Eiichiro Sumita, Zuchao Li, and Hai Zhao*
International Conference on Learning Representations (ICLR-2020), Addis Ababa, Ethiopia

Explicit Sentence Compression for Neural Machine Translation
Zuchao Li, **Rui Wang***, Kehai Chen, Masao Utiyama, Eiichiro Sumita, Zhuosheng Zhang, and Hai Zhao*
Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI-2020), New York, USA

SG-Net: Syntax-Guided Machine Reading Comprehension
Zhuosheng Zhang, Yuwei Wu, Junru Zhou, Sufeng Duan, Hai Zhao*, and **Rui Wang***
Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI-2020), New York, USA

Recurrent Positional Embedding for Neural Machine Translation
Kehai Chen, **Rui Wang***, Masao Utiyama, and Eiichiro Sumita
2019 Conference on Empirical Methods in Natural Language Processing and 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP2019), Hong Kong, China

Unsupervised Bilingual Word Embedding Agreement for Unsupervised Neural Machine Translation
Haipeng Sun, **Rui Wang***, Kehai Chen, Masao Utiyama, Eiichiro Sumita, and Tiejun Zhao*
The 57th Annual Meeting of the Association for Computational Linguistics (ACL-2019), Florence, Italy

Neural Machine Translation with Reordering Embeddings
Kehai Chen, **Rui Wang***, Masao Utiyama, and Eiichiro Sumita
The 57th Annual Meeting of the Association for Computational Linguistics (ACL-2019), Florence, Italy

Sentence-Level Agreement for Neural Machine Translation
Mingming Yang, **Rui Wang***, Kehai Chen, Masao Utiyama, Eiichiro Sumita, Min Zhang*, and Tiejun Zhao
The 57th Annual Meeting of the Association for Computational Linguistics (ACL-2019), Florence, Italy

Lattice-Based Transformer Encoder for Neural Machine Translation
Fengshun Xiao, Jiangtong Li, Hai Zhao, **Rui Wang**, and Kehai Chen
The 57th Annual Meeting of the Association for Computational Linguistics (ACL-2019), Florence, Italy

A Survey of Domain Adaptation for Neural Machine Translation.
Chenhui Chu and **Rui Wang**
The 27th International Conference on Computational Linguistics (COLING-2018), Santa Fe, USA.

Exploring Recombination for Efficient Decoding of Neural Machine Translation.
Zhisong Zhang, **Rui Wang***, Masao Utiyama, Eiichiro Sumita, and and Hai Zhao*
2018 Conference on Empirical Methods in Natural Language Processing (EMNLP-2018), Brussels, Belgium.

Dynamic Sentence Sampling for Efficient Training of Neural Machine Translation.
Rui Wang, Masao Utiyama, and Eiichiro Sumita.
The 56th Annual Meeting of the Association for Computational Linguistics (ACL-2018), Melbourne, Australia.

Syntax-Directed Attention for Neural Machine Translation
Kehai Chen, **Rui Wang***, Masao Utiyama, Eiichiro Sumita, and Tiejun Zhao.
The Thirty-Second AAAI Conference on Artificial Intelligence (AAAI-2018), New Orleans, USA.

Instance Weighting for Neural Machine Translation Domain Adaptation.
Rui Wang, Masao Utiyama, Lemao Liu, Kehai Chen, and Eiichiro Sumita.
Conference on Empirical Methods in Natural Language Processing (EMNLP-2017), Copenhagen, Denmark.

Neural Machine Translation with Source Dependency Representation.
Kehai Chen, **Rui Wang***, Masao Utiyama, Lemao Liu, Akihiro Tamura, Eiichiro Sumita, and Tiejun Zhao.
Conference on Empirical Methods in Natural Language Processing (EMNLP-2017), Copenhagen, Denmark.

Sentence Embedding for Neural Machine Translation Domain Adaptation.
Rui Wang, Andrew Finch, Masao Utiyama, and Eiichiro Sumita.
The 55th annual meeting of the Association for Computational Linguistics (ACL-2017), Vancouver, Canada.

Connecting Phrase based Statistical Machine Translation Adaptation.
Rui Wang, Hai Zhao*, Bao-Liang Lu, Masao Utiyama*, and Eiichiro Sumita.
The 26th International Conference on Computational Linguistics (COLING-2016), Osaka, Japan

A Bilingual Graph-based Semantic Model for Statistical Machine Translation.
Rui Wang, Hai Zhao*, Sabine Ploux*, Bao-Liang Lu, and Masao Utiyama.
25th International Joint Conference on Artificial Intelligence (IJCAI-16), New York, USA.

Neural Network Based Bilingual Language Model Growing for Statistical Machine Translation.
Rui Wang, Hai Zhao*, Bao-Liang Lu, Masao Utiyama, and Eiichiro Sumita.
Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP-2014), Doha, Qatar.

Converting Continuous-Space Language Models into N-gram Language Models for Statistical Machine Translation.
Rui Wang, Masao Utiyama, Isao Goto, Eiichiro Sumita, Hai Zhao, and Bao-Liang Lu.
Proceedings of the 2013 Conference on Empirical Methods in Natural Language Processing (EMNLP-2013), Seattle, USA.

Patent

Multi-domain Neural Machine Translation.
Japan Patent
Rui Wang and Masao Utiyama.

Reordering Mechanism for Neural Machine Translation.
Japan Patent
Kehai Chen, **Rui Wang**, and Masao Utiyama.

Content Word Aware Neural Machine Translation.
Japan Patent
Kehai Chen, **Rui Wang**, and Masao Utiyama.