

TOMOYUKI KAJIWARA

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Institute for Datability Science, Osaka University

2-8 Yamadaoka, Suita, Osaka 565-0871, Japan

RESEARCH INTERESTS

Natural Language Processing / Computational Linguistics

Especially: Text Simplification, Paraphrasing, Semantic Textual Similarity, Quality Estimation

POSITION

Assistant Professor

April 2018 - present

Institute for Datability Science, Osaka University

EDUCATION

Ph.D. in Engineering

April 2015 - March 2018

Dept. of System Design, Tokyo Metropolitan University

Supervisor: Mamoru Komachi (<http://cl.sd.tmu.ac.jp/~komachi/>)

Thesis: Text Simplification without Simplified Corpora

B.S. and M.S. in Engineering

April 2011 - March 2015

Dept. of Electrical, Electronics and Information Engineering, Nagaoka University of Technology

Supervisor: Kazuhide Yamamoto (<http://www.jnlp.org/yamamoto>)

Thesis: Lexical Simplification for Reading Assistance [Department Chair's Award]

EXPERIENCE

Visiting Researcher

May 2017 - August 2017

National Institute of Information and Communications Technology

Mentor: Atsushi Fujita (<http://paraphrasing.org/~fujita/index-en.html>)

Visiting Researcher

September 2015 - December 2015

University of Liverpool

Mentor: Danushka Bollegala (<http://cgi.csc.liv.ac.uk/~danushka/>)

Software Engineer Internship

January 2014 - February 2014

BrainPad, Inc.

Research Internship

October 2012 - February 2013

Fujitsu Laboratories, Ltd.

Program Committee

NLP: NLP 2018 (<http://www.anlp.jp/en/index.html>)

YANS: YANS 2015, YANS 2016, YRSNLP 2016 (<http://yans.anlp.jp/>)

Reviewer

2018: NLPTEA

2017: IJCNLP, NLPTEA

Secondary Reviewer

2018: COLING, EMNLP, WMT

2017: ACL

2016: COLING, NLPTEA

2014: COLING

Journal Papers

1. Tomoyuki Kajiwara, Mamoru Komachi. **Text Simplification without Simplified Corpora**. *Journal of Natural Language Processing*, Vol.25, No.2, pp.223-249, 2018. (In Japanese)
2. Tomoyuki Kajiwara, Danushka Bollegala, Yuichi Yoshida and Ken-ichi Kawarabayashi. **An Iterative Approach for the Global Estimation of Sentence Similarity**. *PLOS ONE*, Vol.12, No.9, pp.1-15, 2017.
3. Tomoyuki Kajiwara and Kazuhide Yamamoto. **Japanese Lexical Simplification for Children Using Definition Statements**. *Journal of Information Processing Society of Japan*, Vol.56, No.3, pp.983–992. 2015. (In Japanese)

Refereed Conference Papers

1. Kazuki Ashihara, Tomoyuki Kajiwara, Yuki Arase and Satoru Uchida. **Contextualized Word Representations for Multi-Sense Embedding**. In *Proceedings of the 32nd Pacific Asia Conference on Language, Information and Computation (PACLIC 32)*, 2018. (to appear)
2. Hiroki Shimanaka, Tomoyuki Kajiwara and Mamoru Komachi. **Metric for Automatic Machine Translation Evaluation based on Universal Sentence Representations**. In *Proceedings of the NAACL 2018 Student Research Workshop (NAACL 2018 SRW)*, pp.106–111. 2018. (Acceptance Rate: 39%)
3. Tomoyuki Kajiwara, Mamoru Komachi and Daichi Mochihashi. **MIPA: Mutual Information Based Paraphrase Acquisition via Bilingual Pivoting**. In *Proceedings of the 8th International Joint Conference on Natural Language Processing (IJCNLP 2017)*, pp.80–89. 2017. (Acceptance Rate: 31%)
4. Tomoyuki Kajiwara and Atsushi Fujita. **Semantic Features Based on Word Alignments for Estimating Quality of Text Simplification**. In *Proceedings of the 8th International Joint Conference on Natural Language Processing (IJCNLP 2017)*, pp.109–115. 2017. (Acceptance Rate: 31%)
5. Yuuki Sekizawa, Tomoyuki Kajiwara and Mamoru Komachi. **Improving Japanese-English Neural Machine Translation by Paraphrasing the Target Language**. In *Proceedings of the 4th Workshop on Asian Translation (WAT 2017)*, pp.64–69. 2017. (Acceptance Rate: ??%)
6. Yui Suzuki, Tomoyuki Kajiwara and Mamoru Komachi. **Building a Non-Trivial Paraphrase Corpus using Multiple Machine Translation Systems**. In *Proceedings of the ACL 2017 Student Research Workshop (ACL 2017 SRW)*, pp.36–42. 2017. (Acceptance Rate: 40%)
7. Tomoyuki Kajiwara and Mamoru Komachi. **Building a Monolingual Parallel Corpus for Text Simplification Using Sentence Similarity Based on Alignment between Word Embeddings**. In *Proceedings of the 26th International Conference on Computational Linguistics (COLING 2016)*, pp.1147–1158. 2016. (Acceptance Rate: 32%)
8. Tomonori Kodaira, Tomoyuki Kajiwara and Mamoru Komachi. **Controlled and Balanced Dataset for Japanese Lexical Simplification**. In *Proceedings of the ACL 2016 Student Research Workshop (ACL 2016 SRW)*, pp.1–7. 2016. (Acceptance Rate: 36%)
9. Tomoyuki Kajiwara and Kazuhide Yamamoto. **Evaluation Dataset and System for Japanese Lexical Simplification**. In *Proceedings of the ACL-IJCNLP 2015 Student Research Workshop (ACL 2015 SRW)*, pp.35–40. 2015. (Acceptance Rate: 31%)
10. Tomoyuki Kajiwara and Kazuhide Yamamoto. **Noun Paraphrasing Based on a Variety of Contexts**. In *Proceedings of the 28th Pacific Asia Conference on Language, Information and Computation (PACLIC 28)*, pp.644–649. 2014. (Acceptance Rate: 46%)

11. Tomoyuki Kajiwara, Hiroshi Matsumoto and Kazuhide Yamamoto. **Selecting Proper Lexical Paraphrase for Children**. In Proceedings of the 25th Conference on Computational Linguistics and Speech Processing (ROCLING 2013), pp.769–772. 2013. (Acceptance Rate: 71%)

System Description Papers

1. Hiroki Shimanaka, Tomoyuki Kajiwara and Mamoru Komachi. **RUSE: Regressor Using Sentence Embeddings for Automatic Machine Translation Evaluation**. In Proceedings of the Third Conference on Machine Translation (WMT 18), 2018. (to appear)
2. Tomoyuki Kajiwara and Mamoru Komachi. **Complex Word Identification Based on Frequency in a Learner Corpus**. In Proceedings of the 13th Workshop on Innovative Use of NLP for Building Educational Applications (BEA 13), pp.195-199. 2018.
TMU systems won in 5 out of the 12 tracks at CWI Shared Task 2018.
3. Masahiro Kaneko, Tomoyuki Kajiwara and Mamoru Komachi. **TMU System for SLAM-2018**. In Proceedings of the 13th Workshop on Innovative Use of NLP for Building Educational Applications (BEA 13), pp.365-369. 2018.
We ranked 4th out of 15 at Shared Task on Second Language Acquisition Modeling.

Domestic Conference Papers

18 oral presentations
20 poster presentations

AWARDS

Incentive Award The 13th NLP Symposium for Young Researchers	<i>August 2018</i>
Hackathon Award The 13th NLP Symposium for Young Researchers	<i>August 2018</i>
Student Incentive Award The 231st IPSJ Natural Language Processing Meeting	<i>May 2017</i>
Outstanding Research Award The 229th IPSJ Natural Language Processing Meeting	<i>December 2016</i>
Hackathon Award The 10th NLP Symposium for Young Researchers	<i>September 2015</i>
Student Incentive Award The 77th National Convention of IPSJ	<i>March 2015</i>
Department Chair's Award Nagaoka University of Technology	<i>March 2015</i>
Incentive Award The 7th NLP Symposium for Young Researchers	<i>September 2012</i>

Japanese Lexical Simplification

http://moguranosenshi.sakura.ne.jp/lexical_simplification/

English Lexical Paraphrase Database

<https://github.com/tmu-nlp/pmi-ppdb>

Simple PPDB: Japanese

<https://github.com/tmu-nlp/simple-jppdb>

English Text Simplification Corpus

<https://github.com/tmu-nlp/sscorpus>

Evaluation Dataset for Japanese Lexical Simplification

<https://github.com/KodairaTomonori/EvaluationDataset>

Metric for Automatic Machine Translation Evaluation

<https://github.com/Shi-ma/RUSE>

Evaluation Corpus for Japanese Sentential Paraphrase Identification

<https://github.com/tmu-nlp/paraphrase-corpus>

REFERENCES

Mamoru Komachi

Associate Professor @ Faculty of System Design, Tokyo Metropolitan University

<http://cl.sd.tmu.ac.jp/~komachi/>

Kazuhide Yamamoto

Associate Professor @ Department of Electrical, Electronics, and Information Engineering, Nagaoka University of Technology

<http://www.jnlp.org/yamamoto/>

Atsushi Fujita

Senior Researcher @ Advanced Translation Technology Laboratory, Advanced Speech Translation Research and Development Promotion Center, National Institute of Information and Communications Technology

<http://paraphrasing.org/~fujita/>

Danushka Bollegala

Senior Lecturer / Associate Professor @ Department of Computer Science, School of Electrical Engineering, Electronics, and Computer Science, The University of Liverpool

<http://cgi.csc.liv.ac.uk/~danushka/>

Yuki Arase

Associate Professor @ Department of Multimedia Engineering, Graduate School of Information Science and Technology, Osaka University

http://www-bigdata.ist.osaka-u.ac.jp/professor/arase/arase_en.html