

# Takahiro KOMAMIZU



## PROFILE

Takahiro Komamizu received the B.Eng degree in computer science, the M.Eng degree, and the PhD degree in engineering from University of Tsukuba, Japan, in 2009, 2011, and 2015, respectively. He became a postdoc researcher at University of Tsukuba in 2015, an assistant professor at the Information Technology Center, Nagoya University in 2018, and a designated lecturer at the Institutes of Innovation for Future Society, Nagoya University in 2021. Since 2022, he is an associate professor in the Mathematical and Data Science Center at Nagoya University. He is a member of ACM, IEEE, IPSJ, IEICE, DBSJ, NLP, and JSAI.

## CONTACT DETAILS

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## PERSONAL INFORMATION

Citizenship: **Japan**  
Languages: **Japanese** (native),  
**English** (fluent)

## RESEARCH INTERESTS

Database, Data Mining,  
Imbalanced Classification, Linked  
Open Data, Multimedia  
Processing, Analytical Processing,  
Legal Information Management

## RESEARCH POSITIONS

ASSOCIATE PROFESSOR AT MATHEMATICAL AND DATA SCIENCE CENTER,  
NAGOYA UNIVERSITY (JAPAN). **2022.01 - pres.**

◇ Multimedia Management, Multi-modal Data Processing

DESIGNATED LECTURER AT INSTITUTES OF INNOVATION FOR FUTURE SOCIETY,  
NAGOYA UNIVERSITY (JAPAN). **2021.04 - 2021.12**

◇ Project: Graduate Program for Lifestyle Revolution based on Transdisciplinary Mobility Innovation (TMI)

◇ Multimedia Management, Multi-modal Data Processing

ASSISTANT PROFESSOR AT INFORMATION TECHNOLOGY CENTER, NAGOYA  
UNIVERSITY (JAPAN). **2018.02 - 2021.03**

◇ Natural Language Processing, Legal Information Management

POSTDOC RESEARCHER AT CENTER FOR COMPUTATIONAL SCIENCES, UNIVERSITY  
OF TSUKUBA (JAPAN). **2015.04 - 2018.01**

◇ Project: Research and Development on Real World Big Data Integration  
and Analysis of MEXT and RIKEN

◇ Database, Analytical Data Processing,

## EDUCATION

PH.D. IN ENGINEERING. *University of Tsukuba* **2011 - 2015**

◇ Thesis theme: A Study on Faceted Search for Semi-structured Data

MASTER IN ENGINEERING. *University of Tsukuba* **2009 - 2011**

◇ Thesis theme: A Study on Faceted Search for Heterogeneous XML Data

BACHELOR IN COMPUTER SCIENCE. *University of Tsukuba* **2005 - 2009**

◇ Thesis theme: A Study on Faceted Search Framework for XML Data

## EDITOR EXPERIENCES

- Associate Editor of IEICE Transactions on Information and Systems (Japan), 2021 - 2025
- Associate Editor of IPSJ Journal of Information Processing (Japan), 2023 - 2025
- Associate Editor of IPSJ Transactions on Database (Japan), 2023 - 2025

## REVIEW EXPERIENCES: JOURNALS

- IEEE Transactions on Computational Social Systems (TCSS): 2021 - 2024
- IEEE Transactions on Industrial Informatics (TII): 2024
- IEEE Access: 2018 - 2019
- Knowledge and Information Systems (KAIS): 2023
- Multimedia Systems: 2020
- World Wide Web (WWW): 2018

## REVIEW EXPERIENCES: CONFERENCES

- TPC member of International Workshop on Frontiers of Computer Vision, 2024
- PC member of IEEE International Conference on Big Data, 2023 - 2024
- PC member of International Conference on Database and Expert Systems Applications, 2024
- PC member of International Conference on Multimedia Retrieval, 2024
- PC member of International Symposium on Information and Communication Technology, 2022 - 2023
- PC member of International Workshop on Entity RETrieval, 2019 - 2020
- PC member of IEEE International Workshop on Semantic Computing for Social Networks and Organization Sciences, 2019 - 2024

## JOURNAL PAPERS

- C. Matsuhira, M. A. Kastner, T. Komamizu, T. Hirayama, K. Doman, Y. Kawanishi, I. Ide, "Interpolating the Text-to-Image Correspondence Based on Phonetic and Phonological Similarities for Nonword-to-Image Generation", *IEEE Access*, Vol.12, pp.41299-41316, 2024
- T. T. Nguyen, P. L. Nguyen, Y. Kawanishi, T. Komamizu, I. Ide, "Zero-Shot Pill-Prescription Matching With Graph Convolutional Network and Contrastive Learning", *IEEE Access*, Vol.12, pp.55889-55904, 2024
- I. Phueaksri, M. A. Kastner, Y. Kawanishi, T. Komamizu, I. Ide, "Image-Collection Summarization Using Scene-Graph Generation With External Knowledge", *IEEE Access*, Vol.12, pp.17499-17512, 2024
- C. Matsuhira, M. A. Kastner, T. Komamizu, I. Ide, T. Hirayama, Y. Kawanishi, K. Doman, D. Deguchi, "Computational measurement of perceived pointiness from pronunciation", *Multim. Tools Appl.*, Vol.83, No.9, pp.26183-26210, 2024
- C. Matsuhira, M. A. Kastner, T. Komamizu, I. Ide, T. Hirayama, Y. Kawanishi, K. Doman, D. Deguchi, "Correction to: Computational measurement of perceived pointiness from pronunciation", *Multim. Tools Appl.*, Vol.83, No.9, pp.26211-26212, 2024
- I. Phueaksri, M. A. Kastner, Y. Kawanishi, T. Komamizu, I. Ide, "An Approach to Generate a Caption for an Image Collection Using Scene Graph Generation", *IEEE Access*, Vol.11, pp.128245-128260, 2023
- Y. Kimura, T. Komamizu, K. Hatano, "An Automatic Labeling Method for Subword-Phrase Recognition in Effective Text Classification", *Informatica*, Vol.47, No.3, 2023
- T. Komamizu, "Combining Multi-ratio Undersampling and Metric Learning for Imbalanced Classification", *J. Data Intell.*, Vol.2, No.4, pp.462-474, 2021
- T. Komamizu, Y. Ogawa, K. Toyama, "An Ensemble Framework of Multi-ratio Undersampling-based Imbalanced Classification", *J. Data Intell.*, Vol.2, No.1, pp.30-46, 2021
- T. Komamizu, "Random walk-based entity representation learning and re-ranking for entity search", *Knowl. Inf. Syst.*, Vol.62, No.8, pp.2989-3013, 2020
- H. Ito, T. Komamizu, T. Amagasa, H. Kitagawa, "Detecting Communities and Correlated Attribute Clusters on Multi-Attributed Graphs", *IEICE Trans. Inf. Syst.*, Vol.102-D, No.4, pp.810-820, 2019
- T. Komamizu, T. Amagasa, H. Kitagawa, "H-SPOOL: A SPARQL-based ETL framework for OLAP over linked data with dimension hierarchy extraction", *Int. J. Web Inf. Syst.*, Vol.12, No.3, pp.359-378, 2016
- T. Komamizu, T. Amagasa, H. Kitagawa, "Facet-value extraction scheme from textual contents in XML data", *Int. J. Web Inf. Syst.*, Vol.11, No.3, pp.270-290, 2015
- T. Komamizu, T. Amagasa, H. Kitagawa, "Faceted Navigation Framework for XML Data", *Int. J. Web Inf. Syst.*, Vol.8, No.4, pp.348-370, 2012

## SELECTED CONFERENCE PAPERS

- C. V. Padeiro, T. Chen, T. Komamizu, I. Ide, "Lightweight Maize Disease Detection through Post-Training Quantization with Similarity Preservation", *EVW@CVPR*, 2024 (to appear)
- N. T. Thanh, Y. Kawanishi, T. Komamizu, I. Ide, "One-Stage Open-Vocabulary Temporal Action Detection Leveraging Temporal Multi-scale and Action Label Feature", *FG*, 2024 (to appear)
- T. Komamizu, "Towards Ensemble-Based Imbalanced Text Classification Using Metric Learning", *DEXA*, pp.188-202, 2023 — Best Paper Award
- C. Matsuhira, M. A. Kastner, T. Komamizu, T. Hirayama, K. Doman, I. Ide, "Nonword-to-Image Generation Considering Perceptual Association of Phonetically Similar Words", *MCGE@MM*, pp.115-125, 2023
- T. Komamizu, "Visual Passage Score Aggregation for Image Retrieval", *MIPR*, pp.37-42, 2023
- J. Shi, T. Komamizu, K. Doman, H. Kyutoku, I. Ide, "RecipeMeta: Metapath-enhanced Recipe Recommendation on Heterogeneous Recipe Network", *MMAAsia*, pp.56:1-56:7, 2023
- I. Phueaksri, M. A. Kastner, Y. Kawanishi, T. Komamizu, I. Ide, "Towards Captioning an Image Collection from a Combined Scene Graph Representation Approach", *MMM*, pp.178-190, 2023
- D. Huo, M. A. Kastner, T. Liu, Y. Kawanishi, T. Hirayama, T. Komamizu, I. Ide, "Small Object Detection for Birds with Swin Transformer", *MVA*, pp.1-5, 2023
- C. V. Padeiro, T. Komamizu, I. Ide, "Towards Achieving Lightweight Deep Neural Network for Precision Agriculture with Maize Disease Detection", *MVA*, pp.1-6, 2023
- A. Yoshida, C. Matsuhira, H. Kato, T. Hirayama, T. Komamizu, I. Ide, "Discovering Phonesthemic Clusters in Readings of Kanji Characters toward Exploring Phonestheme in Japanese", *PAC-LIC*, pp.322-337, 2023
- Y. Kawanishi, I. Ide, B. Chu, C. Matsuhira, M. A. Kastner, T. Komamizu, Daisuke Deguchi, "Detection of Birds in a 3D Environment Referring to Audio-Visual Information", *AVSS*, pp.1-7, 2022
- K. Kusu, T. Komamizu, K. Hatano, "Towards Efficient Data Access Through Multiple Relationship in Graph-Structured Digital Archives", *ICADL*, pp.377-391, 2022 — Best Paper Runner-up
- D. Huo, M. A. Kastner, T. Komamizu, I. Ide, "Action Semantic Alignment for Image Captioning", *MIPR*, pp.194-197, 2022
- Y. Kimura, T. Komamizu, K. Hatano, "Multi-task Learning-based Text Classification with Subword-Phrase Extraction", *SoICT*, pp.23-30, 2022
- T. Yamakoshi, T. Komamizu, Y. Ogawa, K. Toyama, "Evaluation Scheme of Focal Translation for Japanese Partially Amended Statutes", *WAT@ACL/IJCNLP*, pp.124-132, 2021
- T. Komamizu, "MMEnsemble: Imbalanced Classification Framework Using Metric Learning and Multi-sampling Ratio Ensemble", *DEXA*, pp.176-188, 2021
- T. Komamizu, S. Ito, Y. Ogawa, K. Toyama, "FPX-G: First Person Exploration for Graph", *MIPR*, pp.70-76, 2021
- T. Komamizu, "SPARQL with XQuery-based Filtering", *ISWC*, pp.69-74, 2020
- Takahiro Yamakoshi, T. Komamizu, Y. Ogawa, K. Toyama, "Japanese Mistakable Legal Term Correction using Infrequency-aware BERT Classifier", *IEEE BigData*, pp.4342-4351, 2019
- T. Komamizu, Yushi Uchida, Y. Ogawa, K. Toyama, "Analyzing Japanese Law History through Modeling Multi-versioned Entity", *BlockSW/CKG@ISWC*, 2019
- T. Komamizu, T. Amagasa, H. Kitagawa, "SPOOL: a SPARQL-based ETL framework for OLAP over linked data", *iiWAS*, pp.49:1-49:10, 2015 — Best Paper Award