

Edison Marrese-Taylor

Ph.D.

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Researcher, Professor working on Natural Language Processing and Representation Learning.

Education

2017	Ph.D., The University of Tokyo, Japan
2013	Industrial Engineer, University of Chile, Chile
2011	Bachelor of Engineering, University of Chile, Chile

Experience

April 2021 Now	Researcher, National Institute of Advanced Industrial Science and Technology (AIST), Japan > Language and Information Research Team (LANIRT)
January 2023 Now	Visiting Assistant Professor, The University of Tokyo, Japan > Matsuo Laboratory
April 2021 December 2022	Visiting Researcher, The University of Tokyo, Japan > Matsuo Laboratory
November 2018 March 2021	Post-doctoral research fellow, The University of Tokyo, Japan
February 2018 May 2018	Visiting Researcher, The University of Waikato, New Zealand > Department of Computer Science
October 2017 December 2017	Research Engineer Intern, Cogent Labs, Tokyo, Japan
October 2013 October 2014	Research Student, The University of Tokyo, Japan

Competences

Programming Languages: **Python**, Java
Machine Learning Libraries: **PyTorch**, TensorFlow
O.S.: Linux

Languages

Spanish (Native)	● ● ● ● ●
English	● ● ● ● ●
Japanese	● ● ○ ○ ○

References

Yutaka Matsuo, *Professor*
Graduate School of Engineering
The University of Tokyo
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AIST
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Department of Industrial Engineering
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\$ Grants and Awards

- 2013-2017: Monbukagakusho MEXT Graduate Scholarship (total approx. value 56,000 USD)
- 2018: NVIDIA GPU Grant (in kind, approx. retail value 2,500 USD)
- 2018: Best System Analysis Paper - 9th Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis (PI Jorge Balazs)
- 2020: Runner-up for Best Paper Award - The Second Grand-Challenge and Workshop on Human Multimodal Language
- 2020: Outstanding Reviewer - The 2020 Conference on Empirical Methods in Natural Language Processing
- 2021: NVIDIA GPU Grant (in kind, approx. retail value 4,500 USD)
- 2020: RIKEN Fugaku Project - Awarded 1 million node hours on Fugaku Supercomputer 1 for "Training Novel Types of Large-Scale Language Models: Tuning" (PI: Aleksandr Drozd)
- 2021: AIST Houga Grant (approx. 8,500 USD)
- 2022: Best Paper Award - The Fourth Workshop on Insights from Negative Results in NLP
- 2024: AIST Houga Grant (approx. 8,500 USD)

Teaching Experience

October 2018 | Lecturer, The University of Tokyo, Japan
January 2024 | > Introduction to Machine Learning (2018, 2019, 2020, 2021, 2022, 2023)

March 2013 | Lecturer, University of Chile, Santiago, Chile
September 2013 | > Introduction to Information and Communications Technology

Academic Service

Program Committee: **Conferences:** NAACL 2019/2021, ACL 2019-2020,2022, EMNLP 2019-2022, INLG 2019-2020, AAAI 2020-2021, EACL 2021-2023, ACL ARR 2021-now. **Workshops:** SRW-ACL 2018, WASSA 2019/2021, SEM 2021, Insights 2021, 2023, 2025

Area Chair **Conferences:** LREC-COLING 2025, EMNLP 2025 (ongoing)

Senior Area Chair **Conferences:** ACL 2025

Talks

- 22/02/2018: Research Talk at The Machine Learning Group, Waikato University <https://www.cs.waikato.ac.nz/ml/>
- 03/05/2018: Research Talk at the Language and Social Computing Groups, DATA61/CSIRO <https://research.csiro.au/lasc/>
- 06/05/2018: Research Talk at Mark Johnson's group, Macquarie University <http://web.science.mq.edu.au/~mjohnson/>
- 11/05/2018: Research Talk at The Computational Media Lab, ANU <http://cm.cecs.anu.edu.au/>
- 08/09/2018: NLP Tutorial Part 1, Machine Learning Tokyo Meetup <https://www.meetup.com/es/Machine-Learning-Tokyo/events/254108656/>
- 04/10/2018: NLP Tutorial Part 2, Machine Learning Tokyo Meetup <https://www.meetup.com/es/Machine-Learning-Tokyo/events/254956758/>
- 30/11/2018: Research Talk at Okazaki-Lab, Tokyo Institute of Technology <http://www.nlp.c.titech.ac.jp>
- 17/02/2020: Invited Talk at the Knowledge and Information Research Team, Artificial Intelligence Research Center (AIRC), AIST <https://www.airc.aist.go.jp/en/kirt/>
- 28/10/2022: Invited Research Talk at Inui Laboratory, Tohoku University <https://www.nlp.ecei.tohoku.ac.jp/>
- 02/12/2022: Invited Research Talk at The Rakuten Institute of Technology, Tokyo, Japan, <https://rit.rakuten.com/>
- 11/05/2023: Invited Talk at The Sardine Group, Instituto Tecnico Superior, Lisbon, Portugal, <https://sardine-lab.github.io/>,
- 12/05/2023: Invited Talk at Coastal NLP Group at the University of Copenhagen, Copenhagen, Denmark, <https://coastalcph.github.io/>

- Jorge A. Balazs:** Ph.D. Student. Thesis: “Exploiting morphological information for better word representations” <http://jabalazs.github.io/>. The University of Tokyo.
- Chen Xi:** Master’s Student. Thesis: “A study on predicting the success of ICOs using Machine Learning”. The University of Tokyo.
- Shuchen Yang:** Master’s Student. Thesis: “An Analysis on Cryptocurrency Related Search Behavior using Yahoo Query Logs”. The University of Tokyo.
- Shruti Prakash:** Master’s Student. Thesis: “Detecting sarcasm on tweets and news headlines with a machine learning-based cross-domain approach”. The University of Tokyo.
- Francis Zheng:** Master’s Student. Thesis: “Humor Detection: What text encoders from large pre-trained transformer models can reveal about visual and acoustic cues”. The University of Tokyo.
- Machel Reid:** Research Intern. Topic: “Learning to represent Natural Language Edits”. <http://machelreid.github.io/>. The University of Tokyo.
- Yow Ru Chen:** Master’s Student. Topic: “Using large language models for zero-shot definition modeling”. The University of Tokyo.
- James Jhirad:** Research Intern. Topic: “Evaluating Large Language Models’ Understanding of Financial Terminology via Definition Modeling”. The University of Tokyo.
- Enrique Reid:** Research Intern. Topic: “Multilingual Definition Modelling”. The University of Tokyo.
- Pin Chen Wang:** Master’s Student. Thesis: “Prompt-Based Formality Control of Japanese-English Neural Machine Translation Models”. The University of Tokyo.
- Iffat Maab:** Ph.D. Student. Thesis: “Automatic Detection of Textual Misinformation in Online Media using Deep Learning Techniques”. The University of Tokyo.
- Francis Zheng:** Ph.D. Student. Thesis: “Improving Low-Resource Machine Translation Using External Linguistic Knowledge”. The University of Tokyo.
- Ran Li:** Master’s Student. Thesis: “Evaluating Japanese Language Proficiency in Large Language Models through Definition Modeling Techniques”. The University of Tokyo.
- Dominic Sobhani:** Research Intern. Topic: “Automatic Input Categorization for Performance Analysis via Large Language Models”. The University of Tokyo.

 Publications

- [1] D. Sobhani, R. Zhong, E. Marrese-Taylor, K. Sakaguchi, and Y. Matsuo. Language models can categorize system inputs for performance analysis. In *Proceedings of the 2025 Conference of the Nations of America Chapter of the Association for Computational Linguistics: Human Language Technologies (Volume 1: Long Papers)*. Association for Computational Linguistics, 2025.
- [2] M. Rikters and E. Marrese-Taylor. Image-Text Relation Prediction for Multilingual Tweets. In H. Einarsson, A. Simonsen, and D. S. Nielsen, editors, *Proceedings of the 1st Workshop on Nordic-Baltic Responsible Evaluation and Alignment of Language Models (NB-REAL 2025)*, pages 48–54, Tallinn, Estonia, Mar. 2025. The University of Tartu Library.
- [3] E. Marrese-Taylor, E. K. Shimomoto, A. Solano, and E. Reid. Multilingual definition modelling. In *Findings of the Association for Computational Linguistics: ACL 2025 (to appear)*. Association for Computational Linguistics, 2025.
- [4] F. Li, Y. Chen, H. Liu, R. Yang, H. Yuan, Y. Jiang, T. Li, E. M. Taylor, H. Rouhizadeh, Y. Iwasawa, D. Teodoro, Y. Matsuo, and I. Li. MKG-Rank: Enhancing Large Language Models with Knowledge Graph for Multilingual Medical Question Answering, Mar. 2025.
- [5] F. Zheng, E. Marrese-Taylor, and Y. Matsuo. Improving low-resource machine translation for formosan languages using bilingual lexical resources. In *Findings of the Association for Computational Linguistics: ACL 2024*, pages 11248–11259. Association for Computational Linguistics, aug 2024.
- [6] R. Yang, H. Liu, E. Marrese-Taylor, Q. Zeng, Y. Ke, W. Li, L. Cheng, Q. Chen, J. Caverlee, Y. Matsuo, and I. Li. KG-rank: Enhancing large language models for medical QA with knowledge graphs and ranking techniques. In *Proceedings of the 23rd Workshop on Biomedical Natural Language Processing*, pages 155–166, Bangkok, Thailand, aug 2024. Association for Computational Linguistics.
- [7] E. K. Shimomoto, E. Marrese-Taylor, and E. Reid. An empirical study of definition modeling with llms for the main languages of latin america. In *Journal of LatinX in AI Research*, 2024.
- [8] E. K. Shimomoto, E. Marrese-Taylor, I. Kobayashi, H. Takamura, and Y. Miyao. Introducing spatial information and a novel evaluation scheme for open-domain live commentary generation. In *Findings of the Association for Computational Linguistics: EMNLP 2024*. Association for Computational Linguistics, 2024.
- [9] C. Rodriguez-Opazo, E. Abbasnejad, D. Teney, H. Damirchi, E. Marrese-Taylor, and A. van den Hengel. Synergy and Diversity in CLIP: Enhancing Performance Through Adaptive Backbone Ensembling. In *The Thirteenth International Conference on Learning Representations*, oct 2024.

- [10] M. Rikters, R. Viksna, and E. Marrese-Taylor. Annotations for Exploring Food Tweets from Multiple Aspects. In N. Calzolari, M.-Y. Kan, V. Hoste, A. Lenci, S. Sakti, and N. Xue, editors, *Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024)*, pages 1233–1238, Torino, Italia, May 2024. ELRA and ICCL.
- [11] I. Maab, E. Marrese-Taylor, S. Padó, and Y. Matsuo. Media Bias Detection Across Families of Language Models. In K. Duh, H. Gomez, and S. Bethard, editors, *Proceedings of the 2024 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (Volume 1: Long Papers)*, pages 4083–4098, Mexico City, Mexico, June 2024. Association for Computational Linguistics.
- [12] E. K. Shimomoto, E. Marrese-Taylor, H. Takamura, I. Kobayashi, H. Nakayama, and Y. Miyao. Towards parameter-efficient integration of pre-trained language models in temporal video grounding. In *Findings of the Association for Computational Linguistics: ACL 2023*. Association for Computational Linguistics, 2023.
- [13] C. Rodriguez-Opazo, E. Marrese-Taylor, B. Fernando, H. Takamura, and Q. Wu. Memory-efficient temporal moment localization in long videos. In *Proceedings of the 17th Conference of the European Chapter of the Association for Computational Linguistics*, pages 1909–1924, Dubrovnik, Croatia, may 2023. Association for Computational Linguistics.
- [14] E. Marrese-Taylor, P. C. Wang, and Y. Matsuo. Towards Better Evaluation for Formality-Controlled English-Japanese Machine Translation. In P. Koehn, B. Haddow, T. Kocmi, and C. Monz, editors, *Proceedings of the Eighth Conference on Machine Translation*, pages 551–560, Singapore, Dec. 2023. Association for Computational Linguistics.
- [15] E. Marrese-Taylor, M. Reid, and A. Solano. Edit aware representation learning via Levenshtein prediction. In *The Fourth Workshop on Insights from Negative Results in NLP*, pages 53–58, Dubrovnik, Croatia, may 2023. Association for Computational Linguistics.
- [16] I. Maab, E. Marrese-Taylor, and Y. Matsuo. Target-aware contextual political bias detection in news. In *Proceedings of the 13th International Joint Conference on Natural Language Processing and the 3rd Conference of the Asia-Pacific Chapter of the Association for Computational Linguistics*, pages 782–792, Nusa Dua, Bali, November 2023. Association for Computational Linguistics.
- [17] I. Maab, E. Marrese-Taylor, and Y. Matsuo. An effective approach for informational and lexical bias detection. In *Proceedings of the Sixth Fact Extraction and VERification Workshop (FEVER)*, pages 66–77, Dubrovnik, Croatia, may 2023. Association for Computational Linguistics.
- [18] P. Loyola, E. Marrese-Taylor, and A. Hoyos-Idrobo. Perceptual Structure in the absence of grounding: The impact of abstractedness and subjectivity in color language for LLMs. In H. Bouamor, J. Pino, and K. Bali, editors, *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 1536–1542, Singapore, Dec. 2023. Association for Computational Linguistics.
- [19] J. Jhirad, E. Marrese-Taylor, and Y. Matsuo. Evaluating Large Language Models’ Understanding of Financial Terminology via Definition Modeling. In D. Li, R. Mahendra, Z. P. Tang, H. Jang, Y. Murawaki, and D. F. Wong, editors, *Proceedings of the 13th International Joint Conference on Natural Language Processing and the 3rd Conference of the Asia-Pacific Chapter of the Association for Computational Linguistics: Student Research Workshop*, pages 93–100, Nusa Dua, Bali, Nov. 2023. Association for Computational Linguistics.
- [20] I. M. De la Jara, C. Rodriguez-Opazo, E. Marrese-Taylor, and F. Bravo-Marquez. An Empirical Study of the Effect of Video Encoders on Temporal Video Grounding. In *Proceedings of the IEEE/CVF International Conference on Computer Vision*, pages 2850–2855, 2023.
- [21] F. Zheng, E. Marrese-Taylor, and Y. Matsuo. A parallel corpus and dictionary for Amis-Mandarin translation. In *Proceedings of the 2nd International Workshop on Natural Language Processing for Digital Humanities*, pages 79–84, Taipei, Taiwan, November 2022. Association for Computational Linguistics.
- [22] F. Zheng, E. Marrese-Taylor, and Y. Matsuo. Improving Jejueo-Korean Translation With Cross-Lingual Pretraining Using Japanese and Korean. In *Proceedings of the 9th Workshop on Asian Translation*, pages 44–50, Gyeongju, Republic of Korea, Oct. 2022. International Conference on Computational Linguistics.
- [23] E. K. Shimomoto, E. Marrese-Taylor, H. Takamura, I. Kobayashi, and Y. Miyao. A subspace-based analysis of structured and unstructured representations in image-text retrieval. In *Proceedings of the Workshop on Unimodal and Multimodal Induction of Linguistic Structures (UM-IoS)*, pages 29–44, Abu Dhabi, United Arab Emirates (Hybrid), dec 2022. Association for Computational Linguistics.
- [24] E. Marrese-Taylor, Y. Hamazono, T. Ishigaki, G. Topic, Y. Miyao, I. Kobayashi, and H. Takamura. Open-domain video commentary generation. In *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing*, Abu Dhabi, United Arab Emirates, December 2022. Association for Computational Linguistics.
- [25] F. Zheng, M. Reid, E. Marrese-Taylor, and Y. Matsuo. Low-Resource Machine Translation Using Cross-Lingual Language Model Pretraining. In *Proceedings of the First Workshop on Natural Language Processing for Indigenous Languages of the Americas*, pages 234–240, Online, June 2021. Association for Computational Linguistics.

- [26] C. Rodriguez-Opazo, M.-T. Edison, B. Fernando, H. Li, and S. Gould. Dori: Discovering object relationship for moment localization of a natural-language query in video. In *The IEEE Winter Conference on Applications of Computer Vision (WACV)*, Online, January 2021.
- [27] M. Reid, E. Marrese-Taylor, and Y. Matsuo. Subformer: Exploring weight sharing for parameter efficiency in generative transformers. In *Findings of the Association for Computational Linguistics: EMNLP 2021*, pages 4081–4090, Punta Cana, Dominican Republic, November 2021. Association for Computational Linguistics.
- [28] E. Marrese-Taylor, M. Reid, and Y. Matsuo. Variational inference for learning representations of natural language edits. *Proceedings of the AAAI Conference on Artificial Intelligence*, 35(15):13552–13560, May 2021.
- [29] C. Rodriguez-Opazo, E. Marrese-Taylor, F. S. Saleh, H. Li, and S. Gould. Proposal-free Temporal Moment Localization of a Natural-Language Query in Video using Guided Attention. In *The IEEE Winter Conference on Applications of Computer Vision (WACV)*, March 2020.
- [30] M. Reid, E. Marrese-Taylor, and Y. Matsuo. VCDM: Leveraging Variational bi-encoding and Deep contextualized Word Representations for Improved Definition Modeling. In *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pages 6331–6344, Online, November 2020. Association for Computational Linguistics.
- [31] M. Reid, E. Marrese-Taylor, and Y. Matsuo. Combining pretrained high-resource embeddings and subword representations for low-resource languages. In *Proceedings of the 1st AfricaNLP Workshop*, 2020.
- [32] E. Marrese-Taylor, C. Rodriguez-Opazo, J. A. Balazs, S. Gould, and Y. Matsuo. A Multi-modal Approach to Fine-grained Opinion Mining on Video Reviews. In *Second Grand-Challenge and Workshop on Multimodal Language (Challenge-HML)*, pages 8–18, Seattle, USA, July 2020. Association for Computational Linguistics.
- [33] E. Marrese-Taylor, R. Machel, and Y. Matsuo. Variational Inference for Learning Representations of Natural Language Edits. In *Proceedings of the 5th Workshop on Representation Learning for NLP (non-archival)*. Association for Computational Linguistics, July 2020.
- [34] E. Marrese-Taylor, P. Loyola, J. A. Balazs, and Y. Matsuo. Learning to describe editing activities in collaborative environments: A case study on github and wikipedia. In *Proceedings of the 34th Pacific Asia Conference on Language, Information and Computation*, Online, October 2020. Association for Computational Linguistics.
- [35] E. Marrese-Taylor, P. Loyola, and Y. Matsuo. An Edit-centric Approach for Wikipedia Article Quality Assessment. In *Proceedings of the 5th Workshop on Noisy User-generated Text*, pages 381–386, Hong Kong, China, November 2019. Association for Computational Linguistics.
- [36] E. Marrese-Taylor, A. Nakajima, Y. Matsuo, and O. Yuichi. Learning to Automatically Generate Fill-In-The-Blank Quizzes. In *Proceedings of the 5th Workshop on Natural Language Processing Techniques for Educational Applications*, pages 152–156, Melbourne, Australia, 2018. Association for Computational Linguistics.
- [37] E. Marrese-Taylor, S. Ilic, J. A. Balazs, Y. Matsuo, and H. Prendinger. IIIDYT at SemEval-2018 Task 3: Irony detection in English tweets. In *Proceedings of the 12th International Workshop on Semantic Evaluation (SemEval-2018)*, New Orleans, USA, June 2018. Association for Computational Linguistics.
- [38] P. Loyola, E. Marrese-Taylor, J. A. Balazs, Y. Matsuo, and F. Satoh. Content Aware Source Code Change Description Generation. In *Proceedings of the 11th International Conference on Natural Language Generation*, pages 119–128, Tilburg University, The Netherlands, November 2018. Association for Computational Linguistics.
- [39] S. Ilic, E. Marrese-Taylor, J. A. Balazs, and Y. Matsuo. Deep contextualized word representations for detecting sarcasm and irony. In *Proceedings of the 9th Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis*, pages 2–7, Brussels, Belgium, November 2018. Association for Computational Linguistics.
- [40] J. A. Balazs, E. Marrese-Taylor, and Y. Matsuo. IIIDYT at IEST 2018: Implicit Emotion Classification with Deep Contextualized Word Representations. In *Proceedings of the 9th Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis*, pages 50–56, Brussels, Belgium, November 2018. Association for Computational Linguistics.
- [41] E. Marrese-Taylor and Y. Matsuo. Replication issues in syntax-based aspect extraction for opinion mining. In *Proceedings of the Student Research Workshop at the 15th Conference of the European Chapter of the Association for Computational Linguistics*, pages 23–32, Valencia, Spain, April 2017. Association for Computational Linguistics.
- [42] E. Marrese-Taylor and Y. Matsuo. EmoAtt at Emolnt Shared Task 2017: Inner attention sentence embedding for emotion intensity. In *Proceedings of the 8th Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis (WASSA)*, Copenhagen, Denmark, September 2017. Association for Computational Linguistics.
- [43] E. Marrese-Taylor, J. A. Balazs, and Y. Matsuo. Mining fine-grained opinions on closed captions of youtube videos with an attention-rnn. In *Proceedings of the 8th Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis (WASSA)*, Copenhagen, Denmark, September 2017. Association for Computational Linguistics.

- [44] P. Loyola, E. Marrese-Taylor, and Y. Matsuo. A neural architecture for generating natural language descriptions from source code changes. In *Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics (Volume 2: Short Papers)*, pages 287–292, Vancouver, Canada, July 2017. Association for Computational Linguistics.
- [45] J. A. Balazs, E. Marrese-Taylor, P. Loyola, and Y. Matsuo. Refining raw sentence representations for textual entailment recognition via attention. In *Proceedings of the 2nd Workshop on Evaluating Vector Space Representations for NLP*, Copenhagen, Denmark, September 2017. Association for Computational Linguistics.
- [46] J. D. Velasquez, Y. Covacevich, F. Molina, E. Marrese-Taylor, C. Rodriguez, and F. Bravo-Marquez. DOCODE 3.0 (DOcument COpy DEtector). *Inf. Fusion*, 27:64–75, Jan. 2016.
- [47] J. D. Velasquez and E. Marrese-Taylor. Tools for External Plagiarism Detection in DOCODE. In *Web Intelligence (WI) and Intelligent Agent Technologies (IAT), 2014 IEEE/WIC/ACM International Joint Conferences on*, volume 2, pages 296–303, Aug. 2014.
- [48] E. Marrese-Taylor, J. D. Velasquez, and F. Bravo-Marquez. A novel deterministic approach for aspect-based opinion mining in tourism products reviews. *Expert Systems with Applications*, 41(17):7764 – 7775, 2014.
- [49] E. Marrese-Taylor, J. D. Velasquez, F. Bravo-Marquez, and Y. Matsuo. Identifying Customer Preferences about Tourism Products Using an Aspect-based Opinion Mining Approach. *Procedia Computer Science*, 22:182 – 191, 2013. 17th International Conference in Knowledge Based and Intelligent Information and Engineering Systems - KES2013.
- [50] E. Marrese-Taylor, J. Velasquez, and F. Bravo-Marquez. Opinion Zoom: A Modular Tool to Explore Tourism Opinions on the Web. In *Web Intelligence (WI) and Intelligent Agent Technologies (IAT), 2013 IEEE/WIC/ACM International Joint Conferences on*, volume 3, pages 261–264, Nov. 2013.