

Yoshinari Fujinuma

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Education

University of Colorado Boulder, USA Dec 2021
Ph.D. in Computer Science
Advisors
- Katharina Kann(2020-2021), Jordan Boyd-Graber(-2021), Michael J. Paul (-2019)

University of Tokyo, Japan Sep 2014
M.S. in Computer Science; Advisor: Akiko Aizawa

International Christian University, Japan Mar 2012
B.A. in Computer Science and Mathematics; Advisor: Grant Pogosyan

Professional Experience

Applied Scientist / Senior Applied Scientist, Amazon.com, Inc., USA Sep 2021 - Dec. 2024

- AWS Bedrock Knowledge Base: Evaluated and developed extending Bedrock Knowledge Base (RAG on Bedrock) to [be multimodal](#).
- AWS Bedrock Titan: Worked on data curation and supervised fine-tuning for building the first-party LLM [Titan](#) (now rebranded as [Nova](#)) using the Amazon Elastic Kubernetes Service (EKS) cluster.
- AWS Comprehend: Information extraction on document images/PDFs. Made the inference time $\sim 3x$ faster using [FasterTransformers](#).

Graduate Part-Time Instructor, Univ. of Colorado Boulder, USA Jan 2021 - May 2021

- CSCI 4622 Machine Learning ([Github Repo](#))

Teaching Assistant, Univ. of Colorado Boulder, USA Jan-Dec 2020, May-Jul 2021

Applied Scientist Intern, Amazon.com, Inc., USA May 2020 - Aug 2020

Research Assistant, Univ. of Colorado Boulder, USA Aug 2016 - Dec 2019

Applied Scientist Intern, Amazon.com, Inc., USA May 2018 - Aug 2018

Software Dev Engineer, Amazon Japan K.K., Japan Oct 2014 - Aug 2016

Software Engineer Intern, Amazon Japan K.K., Japan Nov 2013 - Feb 2014

Part-time Engineer, Atilika, Japan Aug- Nov 2013, Apr- Sep 2014

Software Engineer Intern, Cookpad, Japan July 2013 (one month)

Publications

- Benjamin Hsu, Xiaoyu Liu, Huayang Li, Yoshinari Fujinuma, Maria Nadejde, Xing Niu, Ron Litman, Yair Kittenplon, Raghavendra Pappagari: “[M³T: A New Benchmark Dataset for Multi-Modal Document-Level Machine Translation](#)”, NAACL (short) 2024
- Yoshinari Fujinuma*, Siddharth Varia*, Nishant Sankaran, Srikar Appalaraju, Bonan Min, Yogarshi Vyas: “[A Multi-Modal Multilingual Benchmark for Document](#)

- [Image Classification](#)”, EMNLP Findings (long) 2023
- Sharon Levy, Neha Anna John, Ling Liu, Yogarshi Vyas, Jie Ma, Yoshinari Fujinuma, Miguel Ballesteros, Vittorio Castelli, and Dan Roth: “[Comparing Biases and the Impact of Multilingual Training across Multiple Languages](#)”, EMNLP (long) 2023
 - Pietro Lesci, Yoshinari Fujinuma, Momchil Hardalov, Chao Shang, Lluís Marquez: “[Diable: Efficient Dialogue State Tracking as Operations on Tables](#)”, ACL Findings (long) 2023
 - Yoshinari Fujinuma, Jordan Boyd-Graber, Katharina Kann: “[Match the Script, Adapt if Multilingual: Analyzing the Effect of Multilingual Pretraining on Cross-lingual Transferability](#)”, ACL (long) 2022
 - Yoshinari Fujinuma, Masato Hagiwara: “[Semi-Supervised Joint Estimation of Word and Document Readability](#)”, TextGraphs-15@NAACL (short) 2021
 - Mozhi Zhang*, Yoshinari Fujinuma*, Michael J. Paul, Jordan Boyd-Graber: “[Why Overfitting Isn’t Always Bad: Retrofitting Cross-Lingual Word Embeddings to Dictionaries](#)”, ACL (short) 2020
 - Mozhi Zhang, Yoshinari Fujinuma, Jordan Boyd-Graber: “[Exploiting Cross-Lingual Subword Similarities in Low-Resource Document Classification](#)”, AAAI 2020
 - Yoshinari Fujinuma, Jordan Boyd-Graber, Michael J. Paul: “[A Resource-Free Evaluation Metric for Cross-Lingual Word Embeddings based on Graph Modularity](#)”, ACL (long) 2019
 - Dasha Pruss, Yoshinari Fujinuma, Ashlynn R. Daughton, Michael J. Paul, Brad Arnot, Danielle Albers Szafir, Jordan Boyd-Graber: “[Zika discourse in the Americas: A multilingual topic analysis of Twitter](#)”, PLOS ONE 2019
 - Mozhi Zhang, Yoshinari Fujinuma, Jordan Boyd-Graber: “Exploiting Cross-Lingual Subword Similarities in Low-Resource Document Classification”, Workshop on Deep Learning Approaches for Low-Resource Natural Language Processing, 2018
 - Yoshinari Fujinuma, Alvin Grissom II: “[Substring Frequency Features for Segmentation of Japanese Katakana Words with Unlabeled Corpora](#)”, IJCNLP (short) 2017
 - Yoshinari Fujinuma, Hikaru Yokono, Pascual Martínez-Gómez, Akiko Aizawa: “[Distant-supervised Language Model for Detecting Emotional Upsurge on Twitter](#)”, PACLIC (long) 2015

*denotes equal contribution

Selected Projects **Analysis on Multilingual Pretraining** 2020 - 2021

- Investigating the effect of using different pretraining languages. ([Paper](#))

Intrinsic Evaluation Measure for Cross-Lingual Embeddings 2017 - 2019

- Developed a graph-based intrinsic measure to evaluate the quality of cross-lingual word embeddings. ([Paper](#))

Finite State Transducer (FST) for Kuromoji 2015

- Replaced a double-array trie to an FST for Kuromoji, a java-based Japanese tokenizer used in Lucene, Solr, and Elastic Search. ([Github Repo](#))

Academic Service

Area Chair:

- 2023 ACL (Multilingualism & Cross-lingual NLP track)
- 2023 EMNLP (Multilingualism & Linguistic Diversity Track)
- 2023 LREC-COLING (Information Extraction, Knowledge Extraction, and Text Mining Track)

Program Committee/Reviewer:

- 2024 AAAI, ACL Rolling Review
- 2023 AAAI, ACL Rolling Review (Feb., Apr.), EACL, NAACL, W-NUT, NLP4HR
- 2022 AAAI, ACL Rolling Review (Jan., Mar., Jun., Oct., Dec.), ACL, EMNLP, NAACL SRW, W-NUT, CoNLL

- 2021 NAACL, ACL, EMNLP, ACL Rolling Review (Sept., Oct., Nov.), CoNLL, NAACL SRW, ACL SRW, W-NUT, Workshop on NLP for Indigenous Languages of the Americas (AmericasNLP)
- 2019 Workshop on Noisy User-Generated Text (W-NUT)

Secondary Reviewer: 2019 ACL, 2017 EMNLP, 2017 WWW

Student Volunteer: 2020 ACL

Academic Honors

- Outstanding Reviewer for CoNLL 2021
- Departmental Travel Grant from CU Boulder (300 USD) 2017
- Graduate School Travel Grant from CU Boulder (500 USD) 2017
- Dean's Fellowship from CU Boulder (1/2 of the yearly tuition and stipend) 2016
- Graduate School Travel Grant from Univ. of Tokyo (80,000 JPY) 2013
- Gödel Foundation Prize: Best Bachelor thesis in CS and Math (50,000 JPY) 2012
- Horie Takematsu and Koh Scholarship (2,000 USD) 2010
- Student Scholarship from ICU (1/3 of the yearly tuition) 2008-2012

Computer and Language Skills

<u>Languages:</u>	Proficient: Python; Intermediate: C++, Java
<u>Libraries:</u>	PyTorch, Deepspeed, MLFlow, Git, Vim, L ^A T _E X
<u>English:</u>	TOEFL iBT 101 (2015)
<u>Domain-specific:</u>	machine learning, natural language processing