

Weiting (Steven) Tan
(443) 440-2950, 960 Southerly Rd, Towson, MD 21204
wtan12@jhu.edu

EDUCATION

Johns Hopkins University , GPA: 3.93/4.00 (Dean's List all semesters) <i>BS/MS in Computer Science, Applied Mathematics & Statistics.</i> <i>Ph.D. in Computer Science</i>	<i>Baltimore, MD</i> 2018/09-2023/05 2023/09-2027/05 (expected)
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------

SELECTED PUBLICATION

Haoran Xu, Amr Sharaf, Yunmo Chen, **Weiting Tan**, Lingfeng Shen, Benjamin Van Durme, Kenton Murray, Young Jin Kim (2024). *Contrastive Preference Optimization: Pushing the Boundaries of LLM Performance in Machine Translation*. In *Proceedings of ICML 2024*

Lingfeng Shen, **Weiting Tan**, Sihao Chen, Yunmo Chen, Jingyu Zhang, Haoran Xu, Boyuan Zheng, Philipp Koehn, Daniel Khashabi (2023). *The Language Barrier: Dissecting Safety Challenges of LLMs in Multilingual Contexts*. In *Findings of ACL 2024*

Weiting Tan, Haoran Xu, Lingfeng Shen, Shuyue Stella Li, Kenton Murray, Philipp Koehn, Benjamin Van Durme, and Yunmo Chen (2023). *Narrowing the Gap between Zero- and Few-shot Machine Translation by Matching Styles*. In *Findings of NAACL 2024*

Weiting Tan, Kevin Heffernan, Holger Schwenk, and Philipp Koehn. (2023). *Multilingual Representation Distillation with Contrastive Learning*. In *Proceedings of EACL 2023*

Lingfeng Shen*, **Weiting Tan***, Boyuan Zheng, and Daniel Khashabi. (2023). *Flatness-Aware Prompt Selection Improves Accuracy and Sample Efficiency*. In *Findings of EMNLP 2023*

Haoran Xu, **Weiting Tan**, Shuyue Stella Li, Yunmo Chen, Benjamin Van Durme, Philipp Koehn, and Kenton Murray. (2023). *Condensing Multilingual Knowledge with Lightweight Language-Specific Module*. In *Proceedings of EMNLP 2023*

Weiting Tan, Chu-Cheng Lin, and Jason Eisner (2023). *Structure-Aware Path Inference for Neural Finite State Transducers*. In *Proceedings of ICBINB workshop at NeurIPS 2023*.

Weiting Tan, Shuoyang Ding, Huda Khayrallah, and Philipp Koehn. (2022). *Doubly-Trained Adversarial Data Augmentation for Neural Machine Translation*. In *Proceedings of the 15th Biennial Conference of the Association for Machine Translation in the Americas 2022*

MANUSCRIPTS

Weiting Tan, Jingyu Zhang, Lingfen Shen, Daniel Khashabi, Philipp Koehn (2024). *DiffNorm: Self-Supervised Normalization for Non-autoregressive Speech-to-speech Translation*. *arXiv abs/2405.13274*

Weiting Tan, Yunmo Chen, Tongfei Chen, Guanghui Qin, Haoran Xu, Heidi C. Zhang, Benjamin Van Durme, Philipp Koehn (2024). *Streaming Sequence Transduction with Dynamic Compression*. *arXiv abs/2402.01172*

TaiMing Lu, Lingfeng Shen, Xinyu Yang, **Weiting Tan**, Beidi Chen, Huaxiu Yao (2024). *It Takes Two: On the Seamlessness between Reward and Policy Model in RLHF*. *arXiv abs/2406.07971*

Weiting Tan and Philipp Koehn. (2022). *Bitext Mining via Contrastive Learning*. *arXiv abs/2208.11194*

WORK EXPERIENCE

Research Scientist Intern – Meta AI (FAIR) <i>Mentored by Xutai Ma</i>	May 2024 – Present New York City, NY
----------------------------------------------------------------------------------	-----------------------------------------

- Researching modality fusion algorithms for speech large language models, aligning speech representation to pre-trained LLMs
- Leveraged speech-to-text alignment to mitigate catastrophic forgetting in cross-modal tuning

Applied Scientist Intern – Amazon Alexa AI

May 2023 – Aug 2023

*Mentored by Eunah Cho**Seattle, WA*

- Developed large language model based evaluation model for conversational agents
- Proposed an ensemble method that improved evaluation accuracy and reduce hallucination through reweighting the evaluation model's predictive logits with a separately trained scorer model

Research Intern – Meta AI (FAIR)

May 2022 – Aug 2022

*Mentored by Philipp Koehn**Menlo Park, CA*

- Improved multilingual distillation for models of low resource languages with data augmentation methods including back-translation and contrastive learning
- Distilled models with data augmentation achieved state-of-the-art mining performance on Khmer, Pashto, Sinhala as well as many extremely low-resource African languages

Software Development Engineer Intern – Yext, Inc.

May 2021 – Aug 2021

*Mentored by Kelly Wilson**New York City, NY*

- Optimized the start-up process for datahub daemon with multi-threading and guava's service manager
- Built an internal debug server microservice (with a simple React-based UI) to facilitate the debugging process of snowflake query generation and compilation. This project is used across the core platform teams

RESEARCH EXPERIENCE**Research Assistant – Center of Language and Speech Processing***Baltimore, MD**Advised by Philipp Koehn*

Aug 2020 – Present

- Conducted research on bitext mining for machine translation on low-resource languages
- Investigated compression and streaming algorithm for speech-to-text (more broadly, sequence-to-sequence) tasks, achieving better latency-quality trade-off for speech translation/transcription systems.
- Built fast and high-quality speech-to-speech translation systems with a data-centric strategy that leverages Latent Diffusion Models to normalize speech features/units.

TEACHING EXPERIENCE

EN.601.465 Natural Language Processing (Course Assistant)	Fall 2022
EN.601.421 Objected-Oriented Software Engineering (Head Course Assistant)	Spring 2021, Fall 2021
EN.601.280 Full-stack JavaScript (Head Course Assistant)	Fall 2020
EN.601.226 Data Structures (Course Assistant)	Fall 2019, Spring 2020

SKILLS

Proficient in Python, Java, JavaScript, C/C++

Experienced with popular packages/tools such as PyTorch, Hugging Face, Fairseq, Faiss, Moses, etc.

Experienced with software development using MERN stack, Laravel, Java Spark, and Flask

Languages: Chinese (Native); English (Proficient); Spanish (Elementary)

AWARDS

Recipient of Masson Fellowship for research	2022
3 rd place of GSA End-User-License-Agreement challenge	2020
Recipient of Williams Huggins Fellowship for summer research	2019
Winner of Microsoft Marco Challenge in HopHacks (biannual hackathon at Hopkins)	2019

SERVICEOrganizer and Program Chair of *The 11th Mid-Atlantic Student Colloquium on Speech, Language and Learning*Program Chair of *The First Workshop on Personalized Generative AI @CIKM'23*

Student Representative of the CS Curriculum Committee at Johns Hopkins University

Reviewer for ARR 2024 (February, June), NeurIPS 2024