

TIANLIN LIU

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Updated: 9th March 2023

EDUCATION

- 2020 - PRESENT **Ph.D. Computer Science**
University of Basel, Switzerland
Advisor: Ivan Dokmanić
- 2017 – 2019 **M.S. Data Engineering**
Jacobs University Bremen, Germany
Advisor: Herbert Jaeger
- 2013 – 2016 **B.S. Mathematics**
Jacobs University Bremen, Germany
Advisor: Götz Pfander

EXPERIENCE

- Summer 2022 **Research intern at Google Brain Zurich.**
Mentors: Joan Puigcerver, Mathieu Blonde, and Carlos Riquelme.
Project: Improve vision mixture-of-experts models via optimal transport.

HONORS AND AWARDS

- 2023 Travel grant awarded by the 3rd SLOWDNN workshop
- 2022 Selected as a young researcher to participate in the 9th Heidelberg Laureate Forum.
- 2022 SIAM Student Travel Award
awarded by the SIAM Conference on Imaging Science 2022.
- 2021 Oberwolfach Leibniz Graduate Student Grant
awarded by the Oberwolfach Research Institute for Mathematics.
- 2019 Dean's Prize for Outstanding Master's Thesis
awarded by Jacobs University Bremen, Germany.
- 2019 IEEE NER 2019 Best Paper Finalist Award
awarded by the 9th IEEE Conference on Neural Engineering.
- 2018 - 2019 SmartStart-1 Fellowship
awarded by the Bernstein Network and the Volkswagen foundation.
- 2019 ACM-BCB 2018 Travel Award
awarded by the 2018 Biocreative/OHNLP workshop of the ACM-BCB.
- 2013 - 2019 Scholarship for undergraduate and master's study
awarded by Jacobs University Bremen.

PUBLICATIONS

- [9] [Tianlin Liu](#), Joan Puigcerver, and Mathieu Blondel. Sparsity-Constrained Optimal Transport. Preprint. [\[PDF\]](#) In Proceedings of the 11th International Conference on Learning Representations (ICLR 2023).
Spotlight presentation
- [8] [Tianlin Liu](#), Anadi Chaman, David Belius, and Ivan Dokmanić. Learning Multiscale Convolutional Dictionaries for Image Reconstruction. IEEE Transactions on Computational Imaging, 2022. [\[PDF\]](#)
- [7] Anastasis Kratsios, Behnoosh Zamanlooy, [Tianlin Liu](#), and Ivan Dokmanić. Universal Approximation Under Constraints is Possible with Transformers. In Proceedings of the 10th International Conference on Learning Representations (ICLR 2022). [\[PDF\]](#)
Spotlight presentation
- [6] [Tianlin Liu](#) and Friedemann Zenke. Finding Trainable Sparse Networks through Neural Tangent Transfer. In Proceedings of 37th International Conference on Machine Learning (ICML 2020). [\[PDF\]](#)
- [5] Zekun Yang* and [Tianlin Liu](#)* (*Equal contribution). Causally Denoise Word Embeddings Using Half-Sibling Regression. In Proceedings of 34th AAAI Conference on Artificial Intelligence (AAAI 2020). [\[PDF\]](#)
- [4] [Tianlin Liu](#). Harnessing Slow Dynamics in Neuromorphic Computation. Master’s thesis, 2019. [\[PDF\]](#)
Dean’s Prize for Outstanding Master’s Thesis
- [3] [Tianlin Liu](#), Lyle Ungar, and João Sedoc. Continual Learning for Sentence Representations Using Conceptors. [\[PDF\]](#)
In Proceedings of the 17th Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL 2019).
- [2] Xu He, [Tianlin Liu](#), Fatemeh Hadaeghi, and Herbert Jaeger. Reservoir Transfer on Analog Neuromorphic Hardware. In Proceedings of the 9th International IEEE Conference on Neural Engineering (NER 2019). [\[PDF\]](#)
Best Paper Finalist Award (3rd place out of 467 accepted papers)
- [1] [Tianlin Liu](#), Lyle Ungar, and João Sedoc. Unsupervised Post-processing of Word Vectors via Conceptor Negation. In Proceedings of 33th AAAI Conference on Artificial Intelligence (AAAI 2019). [\[PDF\]](#)

JOURNAL AND CONFERENCE REVIEWING

CONFERENCE	ICML (2021-2023), NeurIPS (2021, 2022), ICLR (2022, 2023), LoG (2022)
JOURNAL	IEEE Transactions on Signal Processing, IEEE Signal Processing Letters, IEEE Open Journal of Signal Processing

TEACHING EXPERIENCE

2022	Mathematics of Data Science	Uni Basel
	Scientific Writing	Uni Basel
	Machine Learning on Graphs, Groups, and Manifolds	Uni Basel
2021	Computational Sustainability and AI for Social Good	Uni Basel
2021	High-dimensional Data Analysis and Learning on Graphs	Uni Basel
2018, 2019	Machine Learning	Jacobs Uni Bremen
2018, 2019	Principles of Statistical Modeling	Jacobs Uni Bremen