WANCONG ZHANG

Github / LinkedIn / Wancongzhang@gmail.com / ☏ (917) 484–0079

Education

PhD in Computer Science *09/2023-Present*
New York University – Courant Institute, New York, NY

MS in Computer Science – GPA: 3.9/4.0 *09/2018-09/2020*
New York University – Courant Institute, New York, NY

BA in Chemistry– GPA: 3.7/4.0 *09/2009-05/2013*
Bard College, Annandale-on-Hudson, NY

Research / Employment

Affiliate Researcher, Yann LeCun Group, NYU *03/2021-12/2022*
- Designed an efficient probing benchmark to evaluate the fitness of unsupervised visual representations for reinforcement learning. Applied it to systematically improve upon the state-of-art pretraining setup for Atari. Preprint

Senior Deep Learning Researcher, AssemblyAI *02/2021-08/2023*
- Spearheaded the creation of cutting-edge Conformer-1, Conformer-2, and realtime automatic speech recognition (ASR) models, positioning the company at the forefront of the industry.
- Applied self supervised learning to train ASR models for low resource languages.

Graduate Researcher, Sam Bowman & Rajesh Ranganath Groups, NYU *09/2019-06/2020*
- Proposed MixUp algorithms for sentence classification using transformers, regularizing model training and reducing calibration error by 50%. Preprint
- Built customized, fused CUDA kernels for a novel gateless RNN architecture (GATO), increasing its training speed by 4x over its Python version.
- Derived the optimal chain rule sequence for computing the Jacobian of autoencoders, increasing backpropagation speed by >10x. Report Git

Research Intern, Marzyeh Ghassemi Group, University of Toronto *06/2019-09/2019*
- Implemented a multi-modal representation learner for healthcare data that utilizes lab vitals and medical notes to solve clinical tasks. Paper

Software Engineer, Guardant Health *07/2017-07/2018*
- Fullstack web development and distributed systems

Research Staff, Harvard & Stanford Universities *10/2013-10/2016*
- Applied genome editing to build cellular glucose sensors for diabetes monitoring.
- Studied the molecular mechanisms of stem cell differentiation.

Publications

Light-weight probing of unsupervised representations for Reinforcement Learning
W Zhang, A Chen, V Sobal, Y LeCun, N Carion
arXiv preprint 2022[Preprint]

A Comprehensive EHR time series pre-training benchmark
M McDermott, B Nestor, W Zhang, P Szolovitz, A Goldenberg, M Ghassemi
The ACM Conference on Health, Inference, and Learning 2021 [Paper]

Mixup training leads to reduced overfitting and improved calibration for the transformer architecture
W Zhang, I Vaidya
arXiv preprint 2021 [preprint]