

WANCONG ZHANG

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Education

PhD in Computer Science New York University – Courant Institute, New York, NY	<i>09/2023-Present</i>
MS in Computer Science – GPA: 3.9/4.0 New York University – Courant Institute, New York, NY	<i>09/2018-09/2020</i>
BA in Chemistry– GPA: 3.7/4.0 Bard College, Annandale-on-Hudson, NY	<i>09/2009-05/2013</i>

Research / Employment

PhD Candidate, NYU Advised by Prof. Yann LeCun	<i>09/2023-Present</i>
<ul style="list-style-type: none">Exploring hierarchical joint embedding prediction architecture (JEPA) for control.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.	Paper
Senior Deep Learning Researcher, AssemblyAI	<i>02/2021-08/2023</i>
<ul style="list-style-type: none">Spearheaded the creations of state-of-the-art Conformer-1, Conformer-2, and realtime automatic speech recognition (ASR) models.Applied self supervised learning to train ASR models for low resource languages.	
M.S. Researcher, NYU Advised by Profs Sam Bowman & Rajesh Ranganath	<i>09/2019-06/2020</i>
<ul style="list-style-type: none">Proposed MixUp algorithms for sentence classification using transformers, regularizing model training and reducing calibration error by 50%. PreprintBuilt customized, fused CUDA kernels for a novel gateless RNN architecture. Blog GitDerived the optimal chain rule sequence for computing the Jacobian of autoencoders, increasing backpropagation speed by >10x. Report Git	
Research Intern, University of Toronto Advised by Prof. Marzyeh Ghassemi	<i>06/2019-09/2019</i>
<ul style="list-style-type: none">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	<i>07/2017-07/2018</i>
<ul style="list-style-type: none">Fullstack web development and distributed systems	
Research Assistant, Harvard & Stanford Universities	<i>10/2013-10/2016</i>
<ul style="list-style-type: none">Studied the molecular mechanisms of stem cell differentiation.	Paper

Publications

Light-weight probing of unsupervised representations for Reinforcement Learning

W Zhang, A Chen, V Sobal, Y LeCun, N Carion
Reinforcement Learning Conference 2024 [\[Paper\]](#)

Conformer-1: Robust ASR via Large-Scale Semisupervised Bootstrapping

W Zhang*, L Chkhetiani*, F Ramirez*, Y Share, A Vanzo, M Liang, S Martin, G Oexle, R Bousbib,
T Pesach, M Nguyen, D Pulliam, D Donato
arXiv preprint 2024 [\[Preprint\]](#)

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 [\[preprint\]](#)

Teaching

Graduate Student Instructor: [Deep Learning](#) (NYU)

Fall 2024