Matthew Yang

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Education

Carnegie Mellon University, Machine Learning Department — 08/2024 – 12/2025 (expected)
MS in Machine Learning. GPA: 4.17/4.33
Advisor: Aviral Kumar

University of Waterloo — 09/2019 – 04/2024
Bachelor of Computer Science, Statistics Minor. GPA: 94/100
Advisors: Gautam Kamath, Florian Kerschbaum, Yaoliang Yu, Jimmy Lin

Publications

(* indicates Equal Contribution)

Reinforcement Learning on LLMs

Patching Gaps in LLM Reasoning with Interventional Training · website
M Yang, H Bai, I Wu, G Yang, A Setlur, A Kumar
MATH-AI Workshop at NeurIPS 2025

e3: Learning to Explore Enables Extrapolation of Test-Time Compute for LLMs · paper · code · website
A Setlur*, **M Yang***, C Snell, J Greer, I Wu, V Smith, M Simchowitz, A Kumar
EXAIT Workshop at ICML 2025 (Best Paper)

Optimizing Test-Time Compute via Meta Reinforcement Fine-Tuning · paper · code · website
Y Qu*, **M Yang***, A Setlur, L Tunstall, E Beeching, R Salakhutdinov, A Kumar
ICML 2025, FM-Wild Workshop at ICLR 2025 (Oral Presentation)

Data Poisoning

Disguised Copyright Infringement of Latent Diffusion Models · paper · code
Y Lu*, **M Yang***, Z Liu*, G Kamath, Y Yu
ICML 2024

Indiscriminate Data Poisoning Attacks on Pre-trained Feature Extractors · paper · code
Y Lu, **M Yang**, G Kamath, Y Yu
SaTML 2024

Not All Samples Are Equal: Quantifying Instance-level Difficulty in Targeted Data Poisoning · paper
W Xu, Y Lu, Y Wang, **M Yang**, Z Liu, G Kamath, Y Yu
Reliable ML Workshop at NeurIPS 2025

Information Retrieval & Differential Privacy

"Low-Resource" Text Classification: A Parameter-Free Classification Method · paper · code
Z Jiang, **M Yang**, M Tsirlin, R Tang, Y Dai, J Lin
ACL 2023

Integration of Text and Geospatial Search for Hydrographic Datasets · paper · code
M Yang, S Yang, J Lin
JCDL 2022

Improved Accuracy vs. Privacy Trade-off in Perturbed Nearest Neighbour Searches · code
M Yang, T Humphries, F Kerschbaum
Under Review at VLDB 2026

Awards & Service

CRA Outstanding Undergraduate Research Award Finalist, 2024	Top 24 in North America
Canadian Math Olympiad, 2018 and 2019	Top 50 in Canada
Reviewer	ICLR 2026, ICML 2025, ICLR 2025 Workshops, L4DC 2025

Work Experience

Needl (Y Combinator)   Seattle, WA
Machine Learning Engineer   09/2022 – 03/2023
· Designed and implemented strategies to collect user signals to evaluate and improve the core search product
· Researched various LLM-based document retrieval algorithms to decide on the company's new search architecture
· Hired as the company's 1st employee

Rippling   San Francisco, CA
Software Engineer Intern   05/2022 – 08/2022
· Built a major feature into Rippling's core product that allows companies to track and manage IT requests, which significantly improved the user experience of IT admins
· Gave team-wide tutorials on code architecture to onboard full-time engineers

Wish (Back when it was alive)   San Francisco, CA
Software Engineer Intern   09/2021 – 12/2021
· Developed a tool that enables Wish's business team to resolve withheld merchant payments on their own
· This tool eliminated their need to contact the backend team and saved time on both sides

Oanda   Toronto, ON
Machine Learning Engineer Intern   01/2021 – 04/2021
· Built end-to-end ML pipeline that includes data cleaning, feature selection, and model hyperparameter tuning, which increased the precision of classifying high-value clients by > 30%

BorgIQ   Toronto, ON
Software Engineer Intern   05/2020 – 09/2020
· Added a file storage feature to the core product; built a Slackbot; created the company's landing page

Relevant Coursework

CMU: Advanced Intro to ML (A+), Probabilistic Graphical Models (A+), Probability and Statistics (A+), Convex Optimization, Deep Reinforcement Learning
Waterloo: Recent Advances on Foundation Models, Machine Learning, Statistical Learning Theory, Linear Models

Skills

Languages: Python, C++/C, Java, Node.js, SQL
Technologies: Pipeline RL, verl, vLLM, PyTorch, Django, React, MongoDB, SLURM