Tony T. Wang

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Education

Massachusetts Institute of Technology　　　　　　　　　　　　　Cambridge, MA

Ph.D. in Computer Science (on leave), advised by Nir Shavit　　　　　　2021 – Present

M.Eng. in Computer Science, advised by Gregory W. Wornell, GPA: 5.0/5.0　　2020 – 2021

B.Sc. Double Major in Computer Science and Math, GPA: 4.9/5.0　　　2016 – 2020

- *Master's thesis:* Adversarial Examples in Simpler Settings.
- *Selected CS coursework:* Machine Learning, Inference and Information, Robotic Manipulation, Formal Reasoning about Programs, Cryptography, Compilers, Performance Engineering, Randomized Algorithms, Quantum Computation.
- *Selected math coursework:* Measure Theoretic Probability, Complex Analysis, Functional Analysis, Differential Geometry, General Relativity, Abstract Algebra.

Publications

Google Scholar: https://scholar.google.com/citations?user=YWiob00AAAAJ&hl=en.

Work and Research Experience

US AI Safety Institute, NIST　　　　　　　　　　　　　　　San Francisco, CA

Member of the Technical Staff　　　　　　　　　　　　　　　July 2024 – Present

- Designing, implementing, and running evals. Analyzing the results of said evals.

Shavit Lab, MIT　　　　　　　　　　　　　　　　　　　　Cambridge, MA

Research Assistant　　　　　　　　　　　　　　　　　　　Fall 2021 – Present

- Working on AI safety, with a focus on adversarial robustness.

Astra Fellowship, Constellation　　　　　　　　　　　　　　Berkeley, CA

Research Fellow　　　　　　　　　　　　　　　　　　　　Jan 2024 – Jun 2024

- Working on language model jailbreak defense.

Genesis Therapeutics　　　　　　　　　　　　　　　　　　Burlingame, CA

AI Engineer Intern　　　　　　　　　　　　　　　　　　　Summer 2021

- Worked on deep neural networks for molecular property prediction.

Signals, Information, and Algorithms Laboratory, MIT　　　　　　Cambridge, MA

Research Assistant (M.Eng.)　　　　　　　　　　　　　　　Summer 2020 – Spring 2021

- Studied toy examples of adversarial examples to unify different aspects of the phenomenon.
- Collaborated with researchers at the Poggio Lab on neurosymbolic algorithms for solving the Abstraction and Reasoning Corpus.

Nvidia　　　　　　　　　　　　　　　　　　　　　　　Santa Clara, CA

AI-Infra Research Intern　　　　　　　　　　　　　　　　　Summer 2019

- Researched active learning for self-driving vision models, with a focus on diversity-aware batch-mode sampling.

Five Rings Capital New York City, NY
Quant Research Intern Q1 2019

- − Analyzed market data for statistical arbitrage opportunities.

Dropbox San Francisco, CA
Network Reliability Engineering Intern Summer 2018

- − Automated traffic draining for production routers.
- − Hacked on `mypyc`, a compiler from typed Python to Python C extensions.

DigitalWoven San Mateo, CA
Software Engineering Intern Summer 2017

- − Built on AWS the serverless backend for UTStamp, a blockchain notary service.
- − Designed and implemented the UTStamp frontend in React.

AWARDS

Eric and Wendy Schmidt Center PhD Fellowship	2022 - 2023
MIT EECS Harold Hazen Teaching Award	2021
Undergraduate Teaching Assistant Award	2020
USA Computing Olympiad finalist (national top 24)	2013, 2015

OTHER PROJECTS

Roots of Random Polynomials Fall 2019
Term project for 18.821, Project Lab in Mathematics

- − Proved roots of high-degree polynomials are roughly uniformly distributed over the unit circle in $\mathbb{C}$.
- − Report: web.mit.edu/twang6/public/poly-roots.pdf

Statistical Inference Through the Lens of Information Geometry Spring 2019
Term paper for 18.424, Seminar in Information Theory

- − Contains a proof of the Cramér-Rao bound via information geometry.
- − Report: web.mit.edu/twang6/public/stats-info-geo.pdf

Voice Identification on the VoxCeleb Dataset Fall 2017
Term project for 6.867, Machine Learning

- − Compared RNNs to CNNs for performing speaker identification.
- − Report: web.mit.edu/twang6/public/rnn-voxceleb.pdf

Codeforces Round #336 Q4 2015
Competitive programming contest

- − Main organizer and problem writer.
- − Drew 3000+ participants.
- − Particularly proud of authoring codeforces.com/contest/607/problem/C.

OTHER ACTIVITIES

MIT AI Alignment   2022 – Present
Member, Advisor

MIT Club Tennis   2022 – Present
Member

MIT Anime Club   2016 – 2021
Member, President, Webmaster

MIT Chamber Music Society   2016 – 2020
Violinist

Peninsula Youth Orchestra   2011 – 2016
Violinist, Assistant Concertmaster