Lihan Tang

425-301-4693 | tangles@mit.edu | www.linkedin.com/in/ltang33/

Education

Massachusetts Institute of Technology Cambridge, MA

ECE (Course 6-5) and Mathematics (Course 18) GPA: 5.0 *Aug. 2024 – June 2028 (Expected)*

- Courses: Nonlinear Optimization (6.7220), Computational Structures (6.1910), Intro to Algorithms (6.1210), Algebra 1 (18.701), Intro to Control (6.3100)

Interlake High School Bellevue, WA

International Baccalaureate Diploma *Aug. 2020 – June 2024*

Experience

Functional Auto-encoder UROP November 2024 – February 2025

Massachusetts Institute of Technology *Cambridge, MA*

- Designed a mathematically robust auto-encoder in pytorch for probability distributions using concepts from optimal transport theory.
- Optimized the loss function, reducing runtime complexity quadratically through literature-driven improvements.
- Evaluated model performance on benchmark 3D point cloud datasets, comparing transformer-based and conventional architectures through ablation studies.

MIT PRIMES Student researcher Jan 2023 – August 2024

Massachusetts Institute of Technology *Cambridge, MA*

- Worked with partner to settle four unsolved conjecture in additive combinatorics, posting article on MIT website
- Developed a presentation for three conferences, with differing levels of expertise
- Published a 26-page article in the journal *Discrete Mathematics*

Machine Learning Research Assistant Oct 2023 – May 2024

University of Washington *Seattle, WA*

- Connected to a CERN researcher, researching artificial intelligence models in the area of particle physics
- Developed new diffusion model and convolution-based evaluation method for generating realistic particle showers
- Completed a course in machine learning applications in physics with UW.

Math Tutor January 2022 – January 2023

Eastside Education *Bellevue, WA*

- Developed curriculum and assignments, increased class size by 50%
- Documented growth, grade improvement, and engagement, communicating with parents and teachers weekly
- Modified lesson plans for each student based on mathematical strengths and weaknesses.

Technical Skills

Languages: Java, Python, JavaScript, Typescript, Bash
Developer Tools: Git, VS Code, PyCharm, Jupiter Notebook, Slurm
Libraries: React, pandas, NumPy, Matplotlib, pytorch, Hugging Face

Awards

MOP (Math Olympiad Summer Program) Attendee	2022
USA(J)MO Winner (Top 5),	2022
USAMO Honorable Mention	2023
USAPhO Honorable Mention	2023