Aditya Parulekar

(512)-963-7706 adityauparulekar@gmail.com

EDUCATION

University of Texas at Austin-Ph.D. Computer Science *(ongoing), advised by* Dr. Eric Price AUGUST 2022-

Research focus: theoretical machine learning, including theory for diffusion models and large language models

University of Texas at Austin-B.S. Computer Science and Mathematics, Minor in Sanskrit GPA: 3.948

Turing Scholars Honors Program AUGUST 2018 - DECEMBER 2022

PREPRINTS AND PUBLICATIONS (authors listed alphabetically)

Diffusion Posterior Sampling is Computationally Intractable. *Shivam Gupta, Ajil Jalal,* ***Aditya Parulekar****, Eric Price, Zhiyang Xun.* (https://arxiv.org/abs/2402.12727)

Sample-Efficient Training for Diffusion. *Shivam Gupta,* ***Aditya Parulekar****, Eric Price, Zhiyang Xun.* (https://arxiv.org/abs/2311.13745)

L1 Regression via Lewis Weight Subsampling (RANDOM 2021). ***Aditya Parulekar,*** *Advait Parulekar, Eric Price*

-Presented live at RANDOM in August 2021 (virtually). Invited to present a poster at WALDO 2021.

WORK EXPERIENCE

Quantitative Trading Analyst Intern at **DRW** JUNE 2021 – AUGUST 2021

-Worked on the U.S. Treasury Options desk. Researched a trading signal relating to vol ratios. Learned about options pricing and the nuances of the U.S. Treasuries Market.

Software Developer Internship at **WorldQuant (C++)** JUNE 2020-AUGUST 2020

-Worked on research infrastructure, developing algorithms to be used by researchers to develop quantitative strategies. Implemented autoregressive filters and online regression algorithms and read some papers to figure out the best algorithms to implement.

Software Developer Internship at **ArtofProblemSolving (JavaScript)** JUNE 2019-AUGUST 2019

-Developed many tools that the curriculum development team used to create interactive learning modules for students. Spent a lot of time developing heuristics to prevent puzzles from reaching unsolvable states.

AWARDS

2019 Putnam Honorable Mention

2017 U.S. Physics Team Member

GRADUATE COURSEWORK

Combinatorics and Graph Theory, Sublinear Algorithms, Quantum Complexity Theory, Randomized Algorithms, Approximation Algorithms, Theory of Computation, Theory of Probability, Convex Algorithms, Continuous Algorithms, Programming Languages

SKILLS

Proficient: Python (pandas, numpy), C++, Java, C, JavaScript

TEACHING EXPERIENCE

Teaching Assistant:

- 2018-2020: TA for an online course, PhysicsWOOT (Worldwide Online Olympiad Training in Physics), at AoPS, that prepares students for contests such as the National or International Physics Olympiads.
- 2021: Teaching assistant for UT Austin's Honors Algorithms Course. Held weekly office hours, discussion sections, and graded assignments and tests.