Justin Zhang

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Education

Carnegie Mellon University — Pittsburgh, PA
MS in Computer Science (Thesis) — *May 2023 – May 2024*
GPA: 4.0/4.3

Carnegie Mellon University — Pittsburgh, PA
BS in Computer Science, Concentration in Algorithms, Minor in Math — *Aug. 2019 – May 2023*
University Honors, GPA: 3.78/4.00

Presentations

CMU Undergrad Theory Group — Pittsburgh, PA
Carnegie Mellon University — *May 2023*
"Coding Theory and Applications to Storage Systems"

Meeting of the Minds Research Symposium — Pittsburgh, PA
Carnegie Mellon University — *May 2022*
"Matrix Approximations for Recommender Systems on TPUs"

Work Experience

SCS Research Assistant — Jan 2022 – Present
Carnegie Mellon University — *Pittsburgh, PA*

- Convertible Codes: Expanding the convertible codes framework by proving conjectured fundamental lower bounds for bandwidth costs. Mentored by Rashmi Vinayak and Francisco Maturana.
- TPU Matrix Approximations: Developed a novel benchmark for testing the accuracy and efficiency of matrix approximations over Google Cloud TPUs. Mentored by Rashmi Vinayak and Jason Yang.

Software Engineering Intern — June 2022 – August 2022
Goldman Sachs — *New York City, NY*

- Deployed an end-to-end distributed streaming computation pipeline with Apache Flink, Kafka, and Kubernetes.
- Dramatically improved the processing of firmwide permission events hundred-fold to near real time.

Volunteer Assistant Director of Classes — May 2020 – August 2022
UEAA Fun Fun Saturday — *New York City, NY*

- Managed and mentored a team of 12 volunteers to maintain the day-to-day quality of our program's classes.
- Interviewed and collaborated with over 15 instructors to have a diverse class catalog for more than 200 students.
- Volunteered since 2016.

Python Programmer — July. 2021 – June 2022
GPN Lab @ UPMC — *Pittsburgh, PA*

- Solely developed a sophisticated pacman-like game application with Pygame and PyInstaller.
- Implemented logging mechanisms to calculate optimal player movement for future data analysis.

Teaching Experience

- TA for Functional Programming (S21,M21,F21,S22,S23)
- TA for Combinatorics (S23)
- TA for Algebraic Structures (F23)

Awards

The Tepper Scolarship
Selected as a recipient for high achieving academic performance. Semesters received: S22,F22,S23

2021 UEAA Scholarship
Scholarship for academic and personal achievement while dedicating time and effort to serve the Chinatown community.