Lawrence Chen

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Education

Carnegie Mellon University

5th Year Research Master's in Computer Science | Expected 4.0 GPA **2023.06 - Present**

- Receiving funding to work on industry-sponsored research involving multimodal machine learning.
- Exploring automated stroke discovery techniques for robotic painting (FRIDA).
- Coursework: Advanced and Distributed Operating Systems, Deep Reinforcement Learning

B.S. in Computer Science | 3.88 GPA **2019.08 - 2023.05**

- Concentration in Computer Graphics, Minor in Mathematics
- Coursework: Operating Systems, Parallel Computer Architecture and Programming, Computer Game Programming, Introduction to Deep Learning, Physics Based Rendering

Experience

Carnegie Mellon University **2023.06 - Present**
Research Assistant Pittsburgh

- Developed autoencoder-based stroke generation algorithm used in robotic painting methods.

Jump Trading **2022.06 - 2022.08**
Quantitative Researcher Intern Chicago & New York

- Explored database alternatives for market data storage and measured compression and throughput. Discovered solution that achieved 1 order of magnitude improvements in both metrics.
- Designed, implemented, and evaluated algorithms for fast order execution in C++.

Carnegie Mellon University **2022.01 - 2022.05**
Teaching Assistant Pittsburgh

- Led recitations and graded for 15-451 (Advanced Data Structures & Algorithms).

Facebook AI **2021.05 - 2021.08**
Software Engineer Intern Remote

- Worked on Habitat, a photorealistic simulation environment for training embodied AI agents to do household chores.
- Developed a webapp that allows the user to interact with Habitat using either a VR headset or a mobile device with AR capabilities, with the goal of collecting data for imitation learning. Used Javascript Web Workers to move rendering to a separate thread, increasing FPS from 30 to 120.

Google **2020.05 - 2020.08**
STEP Intern Remote

- Collaborated with other interns to develop a website hosted on Google Cloud that allows users to create and solve custom scavenger hunts on Google Maps. Implemented backend with Java and persisted data using Google Datastore.

Awards and Achievements

International Collegiate Programming Contest (ICPC)

- Represented CMU in a team of 3, placing 12th at the North America Championship and qualifying for world finals.

MIT Battlecode

- Competed against hundreds of teams in AI-controlled real-time strategy games.
- 1x champion, 4x top-3, 5x finalist.

Google Code Jam

- Round 3 qualifier (ranked 72nd US out of ~1500).

Skills

Languages: C/C++, Python, Rust, Java
Technologies: PyTorch, OpenGL, CUDA, OpenMP