

KEVIN ZHANG

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EDUCATION

Carnegie Mellon University

Bachelor of Science, Computer Science

June 2023 - May 2027

Pittsburgh, PA

- Coursework: Introduction to Computer Systems, Parallel Data Structures and Algorithms, Principles of Functional Programming, Principles of Imperative Computation, Mathematical Foundations for Computer Science, Matrix Theory, Great Theoretical Ideas in Computer Science, Great Practical Ideas in Computer Science

SKILLS

- C++, Java, Python, Git, JavaScript, Regex, JSON, HTML, CSS
- Linux, MATLAB, \LaTeX , Visual Studio Code, IntelliJ, Github, MacOS, Windows
- Parallel Programming, Data Analysis, Machine Learning

EXPERIENCE

CMU Data Interaction Group

Student Researcher

May 2024 - August 2024

Pittsburgh, PA

- Working on the Mosaic project under Professor Dominik Moritz.
- Reduced client-to-server querying latency by around 10% (20ms to 18ms) through batching and parallelization, currently improving efficiency of caching query results to further reduce latency.

Fermilab

Student Researcher

June 2021 - June 2023

Batavia, IL

- Deployed machine learning models that lowered lepton jet misclassification rates by 61.8% from the theoretical limit of cuts-based methods currently used in my group
- Processed LHC Run II data and Monte-Carlo simulations for training and validating the aforementioned models

PROJECTS

- **Radiosity Engine:** A MATLAB rendering engine that works by applying the finite element method to solve the rendering equation for a given scene.
- **Idea Networks:** A hackathon project that takes two ideas (as strings) and generates a network of ideas (also strings) in between them using API calls to a LLM, where an edge between two ideas denotes a similarity rating of $\geq 95\%$.
- **Spacetre:** Another hackathon project which visualizes and simulates the n -body problem in $O(n \log n)$ time using the Barnes-Hut algorithm and APIs to a custom ML model to detect collisions.

SELECTED AWARDS AND HONORS

- 2 \times US Physics Olympiad (USAPhO) Bronze Medal (2022, 2023)
- 3 \times American Invitational Mathematics Examination (AIME) Qualification (2021, 2022, 2023)
- Score of 19 on the William Lowell Putnam Mathematical Competition
- Math Chair of Mu Alpha Theta IMSA Chapter (2022 – 2023)
- Vice President of Code Society (2021 – 2023)
- Professional Physics Publication. “Prospects for a Search for Doubly Charged Higgs Bosons at the HL-LHC”. Link.