

KEVIN ZHANG

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EDUCATION

Carnegie Mellon University

June 2023 - Present

Bachelor of Science, Computer Science

Relevant Coursework: Principles of Imperative Computation, Mathematical Foundations for Computer Science, Great Practical Ideas in Computer Science, Matrix Theory

Illinois Mathematics and Science Academy

August 2020 - June 2023

High School Diploma - GPA: 4.0/4.0

Relevant Coursework: Computational Science, CS Seminar: Machine Learning, iOS App Development

SKILLS

Languages

C++, JavaScript, Java, C#, C, Swift, Python, HTML, CSS, \LaTeX , MATLAB

Technologies

React, Three, Node, Express, JQuery, Linux, JSON

Skills

Computational Physics, Data Analysis, Mathematics, Computer Graphics, Cryptography, Frontend Web Development, Backend Web Development, Mobile App Development

EXPERIENCE

Fermilab

June 2021 - June 2023

Student Researcher

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

The Ross Mathematics Program

June 2022 - August 2022

Scholar

Terre Haute, IN

- Developed a simple radiosity engine (see projects section)
- Studied quantum-resistant encryption and signature algorithms such as the NTRU cryptosystem (NTRUEncrypt, NTRUSign, NTRU-MLS), the LLL algorithm, and the CRYSTAL algorithms (CRYSTAL-Kyber, CRYSTAL-Dilithium)

PROJECTS

Radiosity Engine

December 2020 - April 2021

- A simple rendering engine that works by applying the finite element method to solve the rendering equation for the given scene. The radiosity method isn't view-limited and is computationally cheaper than ray-tracing for rendering the same static scene. The code and instructions for running it can be found on my GitHub page.

SELECTED AWARDS AND HONORS

2×US Physics Olympiad (USAPhO) Bronze Medal

3×American Invitational Mathematics Examination (AIME) Qualification

[CMS] "Prospects for a Search for Doubly Charged Higgs Bosons at the HL-LHC". Publication link.

National Merit Scholar