

Curtis J Hu

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EDUCATION

University of California, Berkeley Berkeley, California
B.A. Computer Science, B.A. Physics 2022-2026
Relevant Coursework: Intro to Artificial Intelligence, Intro to Machine Learning, Operating Systems, Computer Architecture, Algorithms, Datastructures, Quantum Mechanics, Thermal Statistics, Electricity & Magnetism
Activities: Physics Innovation Laboratory, Cal Triathlon, Outdoor Backpacking Instructor, Cal Climbing

EXPERIENCE

Applied AI / Systems Engineer Washington DC
United States Treasury, Department of Government Efficiency Initiative April -

- **Systems engineering:** Setting up vector db (Clickhouse DB and backup PQ db) with metabase querying and a localized memcached for employee information across the federal bureaus.

Quantitative Finance Intern Alamo, CA
Tanius Technology LLC May - August 2025

- **Infra and tooling:** Live TCP packet traffic capturing in C++ MIMID codebase for Firm-wide metrics with CME exchange. Parsing historical CME PCAP for CME compliance and future data analysis.
- **Strategy Research:** Funding rate arbitrage among FairX futures. Analysis of future-perpetual collapse and strategy performance. C# .NET framework.
- **Data analysis research:** Autocorrelation analysis between mirrored CME & FairX securities. Detecting statistical outlier data swings caused by lower volume markets trailing higher volume markets.

Computational Physics Intern Livermore, CA
Lawrence Livermore National Laboratory May - Aug 2024

- **Programming theory-based physics simulations:** Developed novel C++ mesh management routines that didn't exist before in the KULL codebase that allows for boundary condition handling in LLNL's hydrocode used in fusion ignition simulations.
- **Data analysis:** Ran High Performance Computing experiments and analyzed resulting data to propose changes within the hydrocode and present to the surrounding lab community, including resolution studies and performance analysis.

Course Staff Teaching Assistant Berkeley, CA
EECS Department / Physics Department / Student Learning Center May 2024 - Present

- **Teaching:** Gradescope grading and feedback. Answering questions on Edstem. Answering and walking through questions during Office Hours. Collaborating with professor and coursestaff on proctoring and course logistics.
- **Classes:** CS184, CS88C, CS188, Physics 7B, Physics 7C

Deep Learning in Hadronic Interactions ATLAS (Large Hadron Collider) Berkeley, CA
Lawrence Berkeley National Laboratory Aug 2023 - Aug 2024

- **Training tensorflow models:** Ran high performance computing experiments on the NERSC supercomputer to train tensorflow models (Conditional Normalizing Flow) predicting collision events at the Large Hadron Collider as part of the ATLAS experiment.
- **Data Analysis:** Analyzed and compared model performance to Monte Carlo simulations. Used the Geant4 simulation software to gather dataset and preprocessed data for leading particle energy and particle counts.

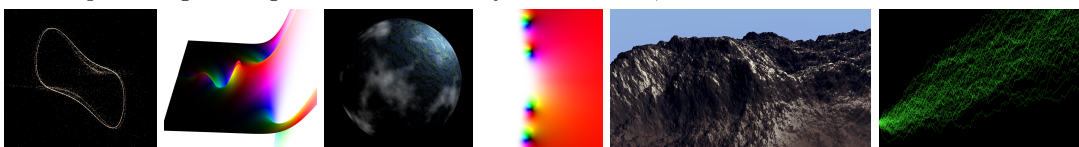
Network Engineering Team Lead Berkeley, CA
Student Affairs Information Technology May 2023 - August 2025

- **Leading teams:** Led and managed a group of student network engineers under the University IT department to solve and troubleshoot campus projects, such as the introduction of new campus-wide GrubHub delivery system or the security of certain campus buildings. Manage influx of incoming tickets in a systematic way

PROJECTS

Mathematical Animations and Videos Content Creation funnyscar.com

- **Computer graphics:** Research into OpenGL, WebGL, and Cuda architecture to create fun mathematical demonstrations of various math and physics phenomena from Riemann Surfaces or Pixar Animations or Differential Equations garnering over 4000+ monthly views. GLSL, C++



SKILLS SUMMARY

Proficient HPC, Scientific Computing, Python, PyTorch, Numpy, C/C++, JavaScript, Typescript, Java, Node.js, MySQL, React, Express, Git, Jupyter, Unix/Bash, HTML, CSS, Matlab, LabView, CAD, OnShape, Solidworks