Yuta Roy Ioriya

Chino Hills, CA | (909) - 479 - 4796 | yioriya@berkeley.edu | linkedin.com/in/yioriya

EDUCATION

University of California, Berkeley Expected May 2027

BS in Mechanical Engineering, pursuing Aerospace Minor

Coursework

- Circuits, Composite Materials, Computer Programming, Fluid Mechanics, Dynamics, Heat Transfer, Manufacturing and Design Communication, Solid Mechanics, Statistics and Data Science, Thermodynamics, Three-Dimensional Modeling for Design

EXPERIENCE

UC Berkeley Aero SAE Jan 2025 - Present

Structures Engineer

- Designed a semi-monocoque fuselage assembly in SolidWorks, while ensuring the design met competition guidelines
- Fabricated wing components using lasercutters, balsa, and MonoKote to create lightweight and durable structures
- Conducted structural analysis on fuselage bulkheads to optimize the strength-to-weight ratio, reducing overall airframe weight

Lawrence Berkeley National Laboratory Jan 2025 - Jun 2025

Machine Learning Research Assistant

- Developed a deep learning model to predict pathway particles by training transformer-based classifiers on datasets from the Large Hadron Collider
- Deployed training workflows on the NERSC Perlmutter supercomputer using PyTorch, implementing optimizations to maximize GPU utilization and improve runtime efficiency
- Tuned hyperparameters using Weights & Biases, resulting in improvements in predictive accuracy by 30%

UAVs at Berkeley Aug 2023 - Dec 2023

Airframe Member

- Designed and 3D printed a custom drone airframe for a team-based autonomous flight project, utilizing PLA
- Applied Fusion 360 and Finite Element Analysis to identify and optimize the airframe's structural integrity before manufacturing
- Increased flight time by 20% through iterative design modifications based on flight test feedback

Bridging Berkeley Aug 2025 - Present

Math Mentor

- Mentored a group of 6-8 middle school students in mathematical concepts to build confidence for advanced coursework
- Fostered an inclusive and engaging learning environment by adapting teaching methods to diverse learning styles, resulting in increased student understanding and 100% homework completion

TECHNICAL PROJECTS

Hands-free Sponge

- Engineered a sponge holster in a group of 6 to assist individuals with arm amputations and hand disabilities
- Fabricated the components using water jet for the aluminum base plate and 3D printing with PLA for the adjustable sponge holsters
- Created a cost-efficient solution that was more than 50% cheaper compared to commercially available solutions

Crowd Meter

- Designed and built a real-time crowd meter that accurately tracks the net number of individuals in a closed space
- Engineered a distributed system using three ESP32 microcontrollers that communicate over Wi-Fi
- Programmed a feedback system in Python using a photoresistor, 2 ultrasonic sensors, LED, LCD display, and speaker

SKILLS

Computer Aided Design: Fusion 360, Solidworks, Onshape

Simulation: Finite Element Analysis, Computational Fluid Dynamics

Hardware: 3D-printing, Drill Press, Mill, Soldering, Bandsaw, Laser Cutting, Water Jet, Markforged, Lathe, Table Saw, Band Saw, Miter Saw, Disk Sander, Belt Sander, Fablight, Microcontrollers (Arduino, ESP32)

Software: Python (Pytorch), MATLAB, SQL, ANSYS, Adobe Illustrator

Other: Japanese (fluent), English (fluent), Pokemon Trading Card Game, One Piece Card Game