

**EDUCATION****University of California, Berkeley | Imperial College London***B.S in Mechanical Engineering and Electrical Engineering and Computer Science (EECS)***Aug. 2022 – May 2026***Berkeley, CA / London, UK*

- **Courses:** Thermodynamics; Fluid/Solid Mechanics; Dynamics; Heat Transfer; Statistics; Continuum Mechanics; FEA; Turbomachinery; DEI; Signal Processing; Fracture Mechanics; Convex Optimization; Electronics & IoT; Experimentation and Measurements; Materials; Convective Transport; Machine Learning; Robotics; Bi-pedal Robotics; Microfabrication; Feedback Controls

**EXPERIENCE AND PROJECTS****UC Berkeley, Dept. of Mechanical Engineering: Lead TA (Feedback Controls & Experimentation and Measurements) May 2025 – Present**

- Led teaching operations for **200+** students in Dynamic Systems and Feedback Control as well as Experimentation and Measurements under Professor George Anwar; coordinated 3 TAs and 4 Readers, managed Ed forum with **23.8k+** student interactions.
- Developed and graded exams: designed root locus, Bode, Nyquist, controller design, state-space, LQR problems with real world applications (F1 active aero, pick and place robots) to improve engagement; created rubrics ensuring consistency across sections.
- Led discussion sections, labs, and office hours, clarifying concepts for **100+ students**, helping students with measurements and experimental design in LabVIEW, MATLAB, Simulink and with sensors (LVDT, IMU, etc.)

**UC Berkeley, Gu Research Group: Undergraduate Researcher****Dec. 2024 – Present**

- Formulated and solved PDEs in linear elasticity using a custom MATLAB/PyTorch PINN and MGN solver for MathWorks; reduced computational time by **~30%** compared to baseline FEA for Timoshenko beam and a 2D central hole in plate using ensemble methods and training pool, cosine scheduler,
- Benchmarked PINN predictions against FEA data, achieving **<5% error** in displacement fields preserving stability across 10k+ collocation points; explored differentiable GNN-based solvers for fluid-solid interaction PDEs; implemented and normalized input and output features. Added a warm start so that training ramps up more gradually.

**Outer Rim Exploration: Hardware/Mechanical Engineering Intern****July 2024 – Sep. 2024**

- Created plastic CAD model for drone-based muon hodoscope integrating PCB design; testing, validating muon flux observations.
- Provided a **hardware review**: topology analysis to decrease mass by 10% and increase stiffness; wrote FEA program subjected to any boundary conditions in MATLAB (no simulation tools) to test buckling; researched alternative deployment methods to linear slides (pantographic, elastically deformable); Created rotation stage with solenoid pins to control zenith angle; gearing of rotation.

**Compressed-Gas Car Design: Co-designer and CAD and Failure Mitigation Lead****Oct. 2023 – Dec. 2023**

- Manufactured a compressed-gas vehicle prototype using mills, lathes, 3D printers, rollers CNC and Laser Cutters; Using Pugh's Total Design approach, created an encased Pelton turbine, shaft-pulley system geared for higher torque; Managed Gantt chart.
- Toleranced engineering drawings; measurement reports; FEA led to selecting Tensol-12 DCM for chassis (**FoS from 1.1 to 3.4**).

**Wind Turbine Design: Aerodynamics and Engineering Lead****Sept 2022 – Dec. 2022**

- As the **top-scoring** group in a class of 250, self-managed a group of 5 people to design the most powerful wind turbine in Solidworks given a 2-week time, and dimension constraints; performed optimization and flow simulations to increase efficiency.
- Solved mass problem by implementing a truss over a wave-infill cylinder; minimised bending while retaining a high moment of inertia.

**Harvard University: Student Physics Researcher****Sept. 2020 – Sept. 2022**

- Researched alongside Prof. Carey Witkov, Dr. Keith Zengel (ATLAS LHC), Dr. Eric Arsenault introduced chi-squared model testing as an alternative to linear regression; used this to find fractal dimension to improve the accuracy of model testing and parameter fitting.
  - Published in the International Scholarly Review: Hui, Larry. Witkov, Carey. *Data Analysis and Chi-Squared Model Testing: Fractal Dimension of Crumpled Paper*. International Scholarly Review 1(2) 23–32. 2021.<sup>4</sup>
- Researched G.E.P Box's Helicopter; Implementation of chi-squared over Hausdorff dims or box-counting in fractal generative design

**RBC Dominion Securities Wealth Management: Summer Research Intern****June 2022 – Aug. 2022**

- Assigned by the portfolio manager to research and study the AI industry with regards to finance. Tracked key companies and performed industry and company analysis to judge their potential growth in the next 5-10 years.
- Utilised prediction programs using LSTM model and Plotly dash Python framework for building dashboards; utilized financial theories, MPT, analysis of company reports; measured risk-adjusted performance of an investment portfolio with a Sharpe Ratio of 3.1

**SKILLS & CERTIFICATIONS**

- **Programs:** SOLIDWORKS (CAD/FEA/CAM), Fusion360, OnShape, ANSYS, Simulink, LabVIEW, ABAQUS, MS Office; Gmsh
- **Design:** GD&T, Design for Manufacturing, Product Development, Design of Experiments, Controller Design
- **Programming Languages:** MATLAB, Python, Java, C++; **ROS2**; **Languages:** English, Mandarin, French (Fluent), German (A1)
- **Fun Facts:** Excited about learning; Passionate about flying & composing + analyzing music; Well-travelled/culturally diverse;
- **Certifications:** Private Pilot's Licence (High-performance and complex endorsements); First Class Piano Level 10 at the RCM

**Awards**

**2025 Outstanding Graduate Student Instructor:** Selected by the ME department in ME132: Dynamical Systems and Feedback Controls; campus-wide award that recognizes top ~10% of instructors across all majors for exceptional teaching and instructional support.