Nathan Lam

626-864-3377 | nathan_lam@berkeley.edu | linkedin.com/in/nathanklam | nathanklam.github.io

Education

University of California, Berkeley Aug. 2024 – May 2028
Bachelor of Science in Mechanical Engineering, Minor in EECS *GPA: 3.615*

Relevant Coursework
3D Modeling & Design, Manufacturing & Design Communication, Intro to Solid Mechanics, Electronics for IoT, Data Structures, Intro to Robotics, Intro to Composite Materials, Feedback Control Systems, Mechanical Behavior of Engineering Materials, Linear Algebra and Differential Equations

Leadership and Experience

Team Lead, 1 lb Project Manager Sep. 2024 – Present
Combat Robotics at Berkeley *Berkeley, CA*
- Led mechanical design and fabrication of 1 lb and 15 lb combat robots under strict weight and budget constraints, earning Most Destructive and Coolest Bot awards. Provided contributions to other robot projects.
- Managed a 100+ member educational 1 lb robot program and coordinated logistics for an on-campus competition.

Research Intern June 2023 – Aug. 2023
Caltech Summer Research Connection *Pasadena, CA*
- Processed astronomic data collected by WINTER using the Astropy Python library in Jupyter Notebooks, improving runtime efficiency on large datasets by around ∼20%.
- Presented data analysis findings and workflow improvements to other research teams for collaborative use.

Projects

Skadoosh | *Combat Robotics at Berkeley* Spring 2026
- Directed design of 1 lb robot, experimented with unconventional geometry to enhance combat performance.

ESP-RESSO 32 | *Electronics for IoT* Fall 2025
- Designed and assembled an embedded system utilizing ESP-32 microcontrollers, integrating an OLED display, LED, and buzzer for real-time feedback from a moka pot, allowing for consistent coffee brewing.
- Programmed wireless sensor data transmission between two ESP-32s using MicroPython.
- Designed and assembled a custom enclosure to securely house the circuit components and wiring.

Malware | *Combat Robotics at Berkeley* Fall 2025
- Contributed design recommendations, manually machined components for the 30 lb robot with a manual mill to save over $100 in manufacturing costs, and assembled the robot.

Master Oogway | *Combat Robotics at Berkeley* Spring 2025
- Led design of the 15 lb robot with an emphasis on protection-to-weight optimization for combat survivability; utilized FEA to ensure proper allocation of materials, and repaired robot after matches.
- Developed engineering drawings for outsourced manufacturing and machined components in-house using manual mill and lathe, cutting production cost by over $100.

Caster Wheel Modular Mounting System | *Manufacturing and Design Communication* Spring 2025
- Researched and designed a caster wheel corner mount in Fusion 360 that enables temporary but secure and non-destructive attachment without drilling or a permanent fastener.
- Fabricated and validated a 3D-printed prototype for compatibility with a multi-component team assembly.

Eggsterminator | *Combat Robotics at Berkeley* Spring 2025
- Spearheaded design of the 1 lb robot with Fusion 360, focusing on survivability and weapon integration.
- Assembled 3D-printed components and hardware; soldered electronic components.

Technical Skills

CAD & Mechanical Design: Fusion 360, SolidWorks, Onshape; GD&T; engineering drawings
Fabrication: 3D Printing; manual machining (mill, lathe, drill press, bandsaw); handheld power tools; soldering
Programming Languages: Python, Java, MATLAB, JavaScript, HTML/CSS
Developer Tools: ROS2, IntelliJ, Git, GitHub, Jupyter Notebooks, VS Code
Languages: English [fluent], Mandarin [intermediate], Cantonese [beginner]