Charlene Lam

www.charlene-lam.com | www.linkedin.com/in/charlene-lam | charlenelam138@gmail.com | 860-752-5083 | US Citizen

Education

Northeastern University Boston, MA

B.S. Mechanical Engineering and Experience Design | GPA: 3.73 *Expected Graduation: May 2026*

Courses: Machine Design, Dynamics, Multivariate Calculus, Paper Mechanics and Package Design, UX Principles

Involvement: Generate Product Development Studio, Society of Women Engineers, Roxbury Robotics Volunteer

Experience

SharkNinja Needham, MA

Advanced Development Product Design Engineering Co-op *Jan 2025 – Apr 2025*

- Designed and developed product concepts for novel, battery powered haircare device breaking into new market space
- Worked cross-functionally with multidisciplinary project members in industrial design, UX design, battery design, and systems engineering to develop early prototypes of 7 different modules on the novel haircare device
- Led brainstorming session of an interconnect module and generated a wide range of mechanical concepts to explore diverse design direction; prototyped 10 interactions to evaluate feasibility and support the down selection process
- Developed prototypes utilizing SOLIDWORKS, Rhino, 3D printing, foam modeling, soldering, and shop tools

Apple Cupertino, CA

Mac R&D Product Design Engineering Intern *Jan 2024 – Aug 2024*

- Worked within the characterization and advanced prototyping branch on developing early-stage Mac architecture while collaborating with industrial design, human factors, manufacturing, and reliability to bring new technology to market
- Provided design recommendations based on characterization research which were integrated into early Mac prototypes
- Visualized mechanical trends and heatmaps based on load cell data processed in MATLAB scripts and JMP
- Designed 5 modular test vehicles utilizing Siemens NX to explore dynamic rotational motion through CT scans
- Characterized impact damage boundary of new architecture in an embedded input module with shock tower analysis
- Analyzed performance of plastics, metals, glass, and adhesives under static and cyclic loading conditions, identifying failure modes and informing design changes that optimized product reliability and user experience
- Compiled learning from design of experiments for accelerometer impact testing combined with HSV cameras/digital image correlation into standard operating procedures for downstream gage repeatability and reproducibility (GR&R)

Lyndra Therapeutics Watertown, MA

Mechanical Design Co-op *Jan 2023 – Jun 2023*

- Developed 130+ part assembly utilizing rapid prototyping techniques furthering R&D of commercialization efforts
- Produced detailed mechanical drawings while collaborating with machine shops for design fabrication of 16 parts
- Enabled novel testing capabilities through implementation of fixtures for machines assessing light absorption
- Built and tested various mechanisms with complex subsystems including PIDs, thermocouples, and pneumatics

Projects

Endless Garden | *SOLIDWORKS, Arduino, FDM 3D Printing, Circuit Design, Soldering, CNC, Waterjet*

- Worked cross-functionally with a team of 5 mechanical engineers throughout 6-month capstone project to develop an automated hydroponic indoor gardening system, winning 1st place in division
- Developed novel harvest methodology based on continuous manufacturing process applied to growth/harvest patterns
- Led mechanical and electrical design of nutrient control system from concept through prototype validation integrating DC peristaltic pumps, flow sensors, and pH sensors to ensure stable pH and nutrient levels achieving 90% accuracy

SageWare | *OnShape, Acrylic Bending, Sheetmetal Design, Keyshot Renders*

- Collaborated with a team of 13 mechanical and electrical engineers to develop a machine that upcycles scrap fabric into flower charm for a jewelry business over a 4 month timeline and presented at Generate's showcase
- Led enclosure modeling and UX design through iterative design process integrating results from over 25 users tests informing data driven designs that achieved both aesthetic and functional requirements
- Fabricated enclosure utilizing OnShape sheet metal design, laser cut acrylic, acrylic bending fixtures, and 3D printing

Technical Skills

Engineering & CAD: Siemens NX, SOLIDWORKS, OnShape, AutoCAD, Rhino, Arduino, MATLAB, JMP, Abaqus FEA
Prototyping: SLA/FDM 3D Printing, Laser Cutting, CNC, Machine/Shop Tools, Design for Manufacturability (DFM), Design for Assembly (DFA), Statistical Tolerance Analysis, Keyshot Rendering, Soldering, Basic Circuit Design
Design Validation: Design of Experiments (DOE) and Standard Operating Procedure (SOP) Development, 2D/3D DIC, GOM Correlate, HSV Camera, CT Scanner, Multi-Axis Load Cell, Accelerometer, Anechoic Chamber, Humidity Chamber