CAMILLE LU

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EDUCATION

Tufts University | *Medford, MA* | *Expected Graduation May 2026*
BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING (BSME), MINOR IN ENGINEERING MANAGEMENT
GPA: 3.90, Tau Beta Pi, Dean's List (all semesters), NESCAC All-Academic Team (Fall 2023 & 2024)
Engineering and Management Coursework: Senior Design, Intro to Robotics and Mechatronics, Engineering Design I-II, Thermal Fluid Systems I-II, Materials and Manufacturing I-II, Mechanics I-II, Electronics and Controls I, Engineering Management, Engineering Leadership, Management of Innovation, Numerical Methods, Computing in Engineering, Sci-Fi Bioengineering, Entrepreneurship and Business Planning

University of New South Wales | *Sydney, Australia* | *January-May 2025*
STUDY ABROAD PROGRAM
Engineering Coursework: Aerospace Structures, The Space Segment, Introduction to Materials Science

SKILLS

Programming Languages: Python, MATLAB
CAD: SolidWorks (inc. FEA, GD&T), SolidWorks PDM
Software Programs and Tools: COMSOL, Photoshop, Adobe Illustrator, Google & Microsoft Office Suite

WORK EXPERIENCE

Smith + Nephew | Andover, MA | May 2025-August 2025
R&D Mechanical Engineering Intern

- Collaborated with cross-functional teams to complete various projects with minimal oversight
  - **Beach Chair Cart Design:** modeled a rigid cart prototype in SolidWorks compatible with multiple versions of a patient positioning beach chair with feedback from marketing and surgical table research
  - **Instrument Syncing Device Covers:** designed removable covers for the camera and adjustment nodes of a device to minimize accidental adjustment without interfering with function and usability
  - **Feasibility Testing:** performed Instron testing on two variations of manufactured parts to solidify the stronger manufacturing method and evaluate the efficacy of the test method. Performed statistical analysis on data and wrote feasibility test report
  - **Drawing Review:** modified complex engineering drawings to represent requested dimension and laser marking changes, required an understanding of GD&T
- Won intern poster competition presenting project accomplishments for second consecutive year, judged by S&N engineers

Smith + Nephew | Andover, MA | May 2024-August 2024
R&D Mechanical Engineering Intern

- **Benchtop Knee Test Model**: improved usability of knee test model for ACL replacement by allowing the model to simulate multiple patient surgical positions. Updated the design in SolidWorks and produced a working 3D printed model
- **Patient Positioning Arm Battery**: designed new battery housing in SolidWorks for patient positioning device due to a change in battery cells from NiCad to $LiFePO_4$. Performed tolerance analysis to ensure compatibility with existing device
- **New Product Development (NPD)**: wrote Design Verification protocols to define necessary testing procedures for device evaluation
- **Patient Hip Positioning Kit**: took dimensions and created engineering drawings of original equipment manufacturer (OEM) components in SolidWorks as part of a project to reverse engineer the device

ACTIVITIES

Tufts Varsity Women's Soccer | August 2022-current

- NCAA Tournament Semifinalist (Fall 2023), record holder for most goals scored in a game
- Dedicated 20-30 hours a week practicing, traveling to/from games, and watching film

Society of Women Engineers | August 2022-current

- Served as fundraising coordinator- participated in weekly e-board meetings to plan fundraising events, professional development, bonding events

PROJECTS
(see portfolio for all)

Piper Archer II Structural Analysis- Class Project

- Used COMSOL to calculate drag, lift, and center of pressure acting on the plane fuselage during 3 different load cases. Created free body diagrams and shear force/ bending moment diagrams
- Designed a MATLAB program to calculate the shear and bending stress at 16 locations across a cross section of the fuselage for each load case
- Performed finite element analysis in SolidWorks to visualize bending stress concentrations on fuselage

Solar Flare Detection CubeSat- Class Project

- Designed a CubeSat with a mission of collecting live data on the occurrence of solar flares
- Selected commercial products for each subsystem to fit with data/power constraints
- Used MATLAB Princeton Satellite Systems Toolbox to design simulations/models to analyze predicted CubeSat trajectory and subsystem performance

Solar System Animation- Personal Project

- Designed a to-scale animation in Python simulating the two-body Moon and Earth orbit
- Designed a to-scale animation in Python simulating the orbits of all planets in the solar system around the sun, using accurate distances from the sun and orbit times for each planet