

Alexander Hahnsuk Pak

🌐 US Citizen 📍 Los Angeles, California 📧 in/alexander-pak 🌐 alexanderpak.com

EDUCATION

BS Mechanical Engineering '23 3.873 GPA University of California, Los Angeles (UCLA) • Los Angeles, CA
MS Mechanical Engineering '26 (In Progress) University of California, Los Angeles (UCLA) • Los Angeles, CA

SKILLS & CERTIFICATIONS

Certifications: SolidWorks CSWA, FE Mechanical
Software: SolidWorks CAD/FEA; Onshape; Excel; HTML/CSS; Python; C++; MATLAB; Gcode
Technical: Machining (CNC, Mill, Lathe); Power Tools (Saws, Drills); 3D Printing; Laser Cutting; Vinyl Cutting; Embroidery
Languages: English (Native), Korean (Fluent)

RELATED WORK/RESEARCH EXPERIENCE

Motiv Space Systems **April 2023 - February 2024**
CCRS Harnessing Engineer / Mechanical Design Engineer
• Design/iterate flight structure, flex cable, and wire harnessing for NASA Mars CCRS Gantry to remove 30% of mass
• Model mechanical structure to interface harnessing to actuators and structure to improve failing deflections by 400%
• Tabulate and analyze harnessing component mass and load capacities to pass JPL load/deflection requirements
• Design, CAD, and create drawings for an assembly to qualify a lead screw for flight in accordance to JPL requirements

Biomechatronics Lab **August 2022 - June 2023**
Undergraduate Researcher
• Create CAD to adapt Meta's camera-based tactile sensor (DIGIT) to interface with the lab's 5 different Robotic Arms
• Improving DIGIT through Silicone Compound fabrication, CAD adjustments, and creating new modular system

Hard Media, Inc. / DSPORT **June 2022 - September 2022**
CNC Manufacturing Intern
• Program/execute Text/Conversational GCode using 4-axis CNC Machine to increase car engine and manifold efficiency
• Probe features to machine car engines, guide blocks, and other parts with a tolerance of 0.0005"

UCLA Samueli Engineering Makerspace **September 2021 - June 2023**
Engineering Staff Personnel
• Proficiency to use and repair all of the makerspace's tools: power tools, 3D printers, laser cutters, and more
• Thousands of hours in 3D printer usage and maintenance

JLaserVideo (Video Link: <https://youtu.be/21ucmScfQT4>) **April 2022 - May 2022**
• Recreated the Batmobile, a functioning automobile with contraptions!
• Designed, modeled, and manufactured lego transport system

ENGINEERING TECHNICAL PROJECTS

Robotic Arm **November 2022 - December 2022**
• CAD and manufacturing of a 5 DoF Arm with a spherical joint
• Forward and Inverse Kinematic analysis of the arm to transport a cup without spilling its contents

X1 Robotics (ASME at UCLA) **September 2021 - June 2022**
BruinBot Mechanical Designer and Manufacturer
• Adapt to a pre-modeled CAD and optimize it for manufacturing
• Manufacture using traditional machining, 3D printing, laser cutting, soldering

ORGANIZATIONAL INVOLVEMENT AND LEADERSHIP

ASME Los Angeles Professional Section Volunteer **March 2024 - Present**

American Society of Mechanical Engineers (ASME) at UCLA **March 2020 - May 2023**
Social Director (2020 - 2022) → President (2022 - 2023)

Japanese Animation Club at UCLA **March 2020 - May 2023**
Secretary (2020 - 2021) → Internal Vice President (2021 - 2023)

Fresh Productions Art at UCLA **March 2020 - May 2023**
Committee Member (2020 - 2021) → President (2021 - 2023)

UCLA Technical Management Program "TMP" **March 2023**