Alexander Hahnsuk Pak

US Citizen | Los Angeles, California | in/alexander-pak
Website Portfolio: alexanderpak.com

EDUCATION

BS Mechanical Engineering '23 - 3.843 GPA — University of California, Los Angeles (UCLA) • Los Angeles, CA
MS Mechanical Engineering - In Progress — University of California, Los Angeles (UCLA) • Los Angeles, CA

LEADERSHIP & CERTIFICATIONS

ASME at UCLA Student Section — **President | Internal Officer**
American Society of Mechanical Engineers — **Los Angeles Professional Section Chair**

Certifications: SolidWorks CSWA | Mechanical Engineering in Training (EIT) Certificate

WORK EXPERIENCE

Lumitron Technologies *Details protected by NDA — **August 2024 - Present**
Mechanical Engineer II
- Design and maintain CAD models of RF and optomechanical assemblies
- Use traditional manufacturing methods to immediately address mishaps in systems
- Take ownership of projects through DFMA, drawing release, vendor quoting, AI&T, and thorough documentation
- Continuously address new requirements from stakeholders in an agile project enviornment

Motiv Space Systems *Details protected by NDA — **April 2023 - February 2024**
Mechanical Design Engineer
- Design CAD, AI&T, and TRR of a lead screw/nut wear and backlash test that mimics flight loads applied on an Oldham
- Draft, redline, and release engineering drawings for test assembly using GD&T standards
- Collaborate closely with manufacturing, electrical, and analysis engineers to apply best DFMA principles
- Communicate verbally and through PPT presentations, and adapt to changing NTE zones and new load requirements

CCRS Harnessing Engineer
- Design flight bulkheads, clamps, flex cable, and wire harnessing for NASA Mars CCRS Gantry to remove 30% of mass
- CAD model a twist capsule for flex cable compliance in 270 degrees of rotation, qualified through physical prototyping
- Model mechanical structure to interface harnessing to actuators and structure to improve failing deflections by 400%
- Tabulate and locate harnessing component masses and load capacities for analysis against JPL requirements

Hard Media, Inc. / DSPORT — **June 2022 - September 2022**
CNC Manufacturing Engineer
- Program conversational GCode using 4-axis CNC Machine to increase cylinder sizes and car engine efficiency
- Use CNC to probe engine blocks, guide blocks, and other parts with a tolerance of 0.0005”
- Take measurements to model prototypes in SolidWorks and 3D print/machine model to prove fit and function
- Scan/digitize custom manifold gaskets and CNC machine car engine manifolds to match

JLaserVideo (Video Link: https://youtu.be/21ucmScfQT4) — **April 2022 - May 2022**
Lego Batmobile Engineer
- Used both mechanical and bonded fastening measures to create a Lego transport system to dispense 1 m^3 of bricks
- Budget and purchase COTS items to minimize time costs and complete project in a two week time frame
- Documentation of not only engineering design, but also the design process and procedures to create final video

UCLA Samueli Engineering Makerspace — **September 2021 - June 2023**
Engineering Technician
- Use and repair 3D printers, laser cutters, plasma cutter, power tools, and more Makerspace tools
- Thousands of hours in FDM and SLA 3D printer usage and maintenance
- Communicate technical details of tools to both knowledgeable and first-time users

REASEARCH EXPERIENCE

UCLA Biomechatronics Lab — **August 2022 - June 2023**
- CAD Model the lab’s 5 robotic arms to interface them with Meta’s open source camera-based tactile sensor (DIGIT)
- Model and manufacture modular DIGIT housing for rapid mounting between manipulators and component replacement
- Design mount for DIGIT on a modified CNC system to compare and characterize its force sensing