Jose Amador - 2022 GEM Fellow
joseamador77@yahoo.com · (408) 910-2845 · joseamador77.github.io

EDUCATION

Stanford University - Stanford, CA - 2022-2024 GPA - 4.044/4.0
MS - Mechanical Engineering w/ Robotics, Kinematics, and Mechatronics Concentration

Northwestern University - Evanston, IL - 2018-2022 GPA - 3.899/4.0, Cum Laude honors
BS - Mechanical Engineering w/ Robotics Concentration Minor - Computer Science

PROFESSIONAL EXPERIENCE

Johnson & Johnson Vision - Milpitas, CA Summer 2022 & 2023
Mechanical R&D Intern - 2023

- Redesigned 2 DOF retractable arm, halving number of components while achieving equivalent precision
- Created a GUI in C++ for USB to serial communication platform for testing embedded electronics with ability to easily configure I2C and SPI protocols, create/open scripts for efficient testing, and manually control I/O ports

Mechanical R&D Intern - 2022

- Designed+prototyped optomechanical system to allow tip and tilt of lens used in excimer laser system
- Used SolidWorks/COMSOL finite element analysis to guide frame design, structure, and material choice to meet requirements while accounting for input from service, industrial design, and electrical teams

Shure Incorporated - Niles, IL Summer 2021
Process Engineering Intern

- Designed/conducted a process capability study to reduce adhesive curing time from 90 to 25 minutes
- Learned main manufacturing processes/machines to create instructional documents to enable anyone to use a machine in <1 hour and applied this knowledge to construct prototypes for project management

DESIGN PROJECTS

Robot Design Studio Senior Capstone Winter/Spring 2022
Haptic Tablet Robot

- Worked in a team of six to document and create a 4 degree-of-freedom robot hidden underneath a tablet that used polymagnets to produce haptic sensations tangent to the display surface
- Created alpha/beta designs that used brushless DC motors to drive two, 2R parallel linkages with polymagnet end effectors that would interact with magnets on the user's fingers through a touch screen to render virtual objects

Mechanical Engineering Independent Study Summer 2020
Four-Wheel Drive Conversion

- Converted Baja SAE powertrain system from two-wheel to four-wheel drive and decreased weight by approximately 35 lbs while maintaining a minimum 1.5 factor of safety for all components
- Designed and manufactured a single-stage gearbox using American Gear Manufacturing Association methods to prevent contact stress and bending stress failure modes

LEADERSHIP

Northwestern Baja SAE 2021 - 2022 Academic Year
Chief Engineer

- Apply mechanical engineering principles and understanding of the car to review and manage the projects of all 35+ members on the team ensuring compliance with all official rules
- Coordinated with other team leaders to set the vision, goals, and values of the team and created standards for which parts were to be modeled by and required load cases for the parts to sustain

TECHNICAL SKILLS

- Extensive use of SolidWorks, Siemens NX, Abaqus, COMSOL, and finite element analysis
- Adept in traditional machining, turning, TIG welding, CNC programming, and rapid prototyping processes
- Proficiency in C/C++, MATLAB, Python, and Java
- Experienced with PIC32 microcontrollers, serial communication protocols, and PID control