Justin Lee

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WORK EXPERIENCE

Goleta Star **June – August, 2024**

Mechanical Engineering Intern Torrance, CA

- Designed and fabricated electrical radar component testing fixtures using SolidWorks and 3D printing, enabling untrained personnel to perform electrical testing, reducing reliance on specialized technicians which cut testing expenses by thousands of dollars
  - Optimized design for manufacturability during supplier quoting, resulting in around 20% reduction in prototyping costs per iteration
- Installed, learned, and taught how to operate the OMTech Polar laser cutter to coworkers to prepare for production
- Researched and developed an improved drone radar PCB board housing design that increases thermal conductivity while reducing mass from the current design
- Contributed to radar testing at a local beach via improved real-world performance data and validating design enhancements

J&C Global at Augmented World Expo **June, 2024**

Translator for P&C Solution Long Beach, CA

- Facilitated seamless communication between international team and clients/potential investors
- Demonstrated adaptability and quick-thinking in fast-paced environment by independently promoting products and services to industry representatives and CEOs while the international team went to discuss with potential collaborators

EDUCATION

Johns Hopkins University **August, 2021 – May, 2025**

B.S. Mechanical Engineering Baltimore, MD

- **Technical Skills:** SolidWorks, PTC Creo, MATLAB Simulink, PFMEA, Machining, Laser Cutting, 3D Printing, Wire EDM, DFM, Breadboarding and Circuitry, Minimum Design Loads Analysis, Ansys Granta EduPack
- **Interpersonal Skills:** Leadership, Attention to Detail, Conflict Resolution, Time Management, Proactive
- **Programming Language:** MATLAB, Arduino, Python, HTML, CSS

PROJECTS

- **TIGON Medical Suture Passer** **August, 2024 – May, 2025**
  - Collaborated with TIGON Medical to design and develop an improved suture passer model that increases the suture capture rate to 95%
  - Ideated, designed, and machined a more efficient sharpened needle tip design, sharpening along a secondary axis and changing the angle to 35 degrees, ultimately reducing rotator cuff tendon puncture force by 50%
  - Created the entire suture passer model using PTC Creo and designed and prototyped a new lower jaw design that is projected to increase Force efficiency by 115%
  - Trained Nitinol needles at 500 degrees Celsius to transform at body temperature to reduce stress on the needle as it traverses through the apparatus's lower jaw
  - Administered Microsoft Teams project management and created a GANTT chart to organize and schedule project tasks to coordinate project requirements with the sponsor
  - Generated a Bill of Materials for budget estimation to satisfy the sponsor's project requirements
- **Autonomous Robot** **March-May, 2025**
  - Designed and developed a fully functional robot equipped with motors, PING sensor, IMU sensor, ZigBee sensor, and color sensor to autonomously detect a hockey puck and drive it into the appropriate goal
  - Assembled a 3D model using PTC Creo by drafting each individual part and then creating an assembly file to ensure the geometrical constraints allow for proper fitting during fabrication
  - Coded in Arduino IDE using the IMU sensor and proportional integral derivative control for path correction to efficiently drive straight forward and backwards, closed-loop control for precise turns, and the color sensor for object and boundary detection