MILES LIU

mliu59@jhu.edu | (626)-200-3776 | mliu59.github.io | LinkedIn

EDUCATION

Johns Hopkins University - Whiting School of Engineering

M.S.E. Robotics (Medical Robotics Focus) — Expected Graduation: May 2022
B.S. Mechanical Engineering — Graduated: May 2021

- Minors in Computer Science, History
- CGPA: 3.67. Graduated with General Honors, Dean's List; Member of Pi Tau Sigma (ΠΤΣ)
- President of Chinese Students Association; Volunteer Head of Family at THREAD

SKILLS

Project Management	Robotics	Programming	Eng. Tools	Regulatory Experience
Professional communication	Robot Operating System	Python	CAD	ISO 13485
Project timeline & objectives	System integration & testing	C/C++	FEA	FDA 510(k) submissions
Task delegation	Sensors & actuators	MATLAB	Mfg.	FDA class II medical devices
Risk management	Robot motion planning	JavaScript	API dev.	EU CE certification
Documentation & reports	Surgical navigation	SQL	Web dev.	V&V testing

WORK EXPERIENCE

Computer Integrated Interventional Systems Laboratory — Baltimore, MD

Graduate Research Assistant, Sponsored by Sanaria, Inc. — Aug 2021 – Current

- Developed, integrated, and maintained software systems for an automated mosquito microdissection robot for efficient malaria vaccine production. Projected to increase throughput by 100%.
- Developed debugging, data collection, and testing tools for software transition and system failure analysis.
- Overhauled robot actuator controller firmware and software interfaces to increase actuation flexibility.
- Streamlined robot calibration and robot homing procedures, with a goal to fully automate system calibration.

ClearMask, LLC — Baltimore, MD

Engineering Consultant — May 2020 – Current

- Lead engineer under the CTO owning the full development cycle of 3 transparent medical face mask products including research, prototyping, manufacturing, human factors testing, IP development, and regulatory documentation. ~5M masks sold in the 2021 calendar year.
- Team and engineering lead on the company's finalist team for the CDC BARDA Mask Innovation Challenge.
- Worked closely with marketing, regulatory, sales, customer relations teams to capture customer needs and customer feedback for product development and regulatory compliance.

Nguyen Laboratory for Mechanics of Soft Adaptive Materials — Baltimore, MD

Undergraduate Research Assistant — May 2019 – June 2020

- Prototyped a low-cost micron precision bi-axial biogel stretcher for exploring astrocyte cell mechanics.

ENGINEERING PROJECTS

OCEAN21 – Autonomous Surface Vehicle for Subsea ROV Testing — Aug 2020 – June 2021

Mechanical Engineering Senior Design Project, Sponsored by Oceaneering International, Inc.

- Designed, prototyped, and tested an autonomous tether management surface vehicle to mitigate tether tension during small subsea ROV testing and deployment.
- Final product reduced 75%-90% of tether tension in various ROV operational conditions.
- Awarded Design Day Best Presentation Award by ASME judge panel.

WikiSpeedruns – Browser Game for Wikipedia Surfing — Jan 2021 – Current

Web development passion project, self-organized

- Organized, developed, and deployed an online competitive Wikipedia surfing game as a full-stack developer with a team of software engineers. 1.7k+ registered users and 68k+ games played in 3 months.