MILES LIU

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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; Head of Family at THREAD

SKILLS

Project Management	Robotics	Programming	CAD	Eng. Tools
Professional communication	Robot Operating System (ROS)	C/C++	SolidWorks	Abaqus FEA
Project timeline & objectives	System integration & testing	MATLAB	PTC Creo	Machining
Task delegation	Sensors & actuators	Python	AutoCAD	Manufacturing
Risk management	Registration & calibration	JavaScript		SQL databases
Documentation & reports	Navigation & motion planning	Java		Web development

WORK EXPERIENCE

Computer Integrated Interventional Systems Laboratory — Baltimore, MD

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

- Developed, integrated, and maintained software (C++ & Python) and hardware solutions for parallelization of mosquito salivary gland extraction robot processes for efficient malaria vaccine production.
- Integrated a SQL database for process logging to facilitate training of robot vision and general debugging.
- Developed debugging and testing tools to facilitate software transition and system failure analysis.

ClearMask, LLC — Baltimore, MD

Engineering Associate — May 2020 – Current

- Responsible for the full development cycle of transparent medical face mask products: including research, prototyping, manufacturing, human factors testing, IP development, and regulatory documentation.
- Launched transparent face masks for children with tens of thousands of units sold per month.
- Worked closely with marketing, regulatory, sales, customer relations teams to capture customer needs and customer feedback for product development and regulatory compliance.
- Crafted and delivered pitch on behalf of company for the CDC Mask Innovation Challenge: Semi-Finalist.

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 stretcher for exploring astrocyte cell mechanics in glaucoma.
- Conducted FEA for analysis of strain localization in cruciform biogels, optimized geometric design of gel.

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.

DECON – Autonomous Disinfection Unit — Aug 2019 – June 2020

Leading Innovation Design Team, Sponsored by JHU Applied Physics Laboratory