Stanley Miller

Linkedin Profile | Portfolio
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SUMMARY

With over a decade of experience, I am a versatile cross-disciplinary technical leader who has successfully brought multiple products to market in the medical devices and biotech instrumentation sectors. I thrive in fast-paced environments, iterating designs rapidly using technical intuition and data analysis. I am passionate about providing tools for other engineers to succeed in their careers

RELEVANT SKILLS

- Leading, mentoring, and inspiring technical teams, fostering a collaborative and enthusiastic work environment.
- Leading a multidisciplinary team with various backgrounds (hardware, software, material science, chemistry, molecular biology)
- Overseeing technical projects to completion, and coordinating with cross-functional teams to align on project goals and timelines
- Proficient in designing instrumentation(thermal, optics, and linear actuation systems) and consumable components
- Complex problem-solving techniques (Shainin red-X and fault tree analysis)
- Mechanical part and assembly drawings for prototypes through production, BOM management
- Fluidic flow and heat transfer simulations using COMSOL Multiphysics
- Extensive experience (9+ years) in CAD (Solidworks, Onshape, and Fusion360) and PLM systems (Arena and Windchill)
- Rapid prototyping(CNC, 3D printing; SLA, DLP, FDM), electronic assembly
- GD&T, ISO fits and tolerances, ASME Y14, DFM (Design for Manufacturing) and DFA (Design for Assembly)
- Software: Python, Git, UNIX Shell, PLC, and industrial robot programming, Matlab
- Serial communication, embedded control, graphical user interface (GUI), task and memory management
- Robotics (Mitsubishi 6 Axis robot, linear actuators) and Automated inspection(Instron, oscilloscope, microVu, and Keyence VHX)

WORK EXPERIENCE

ENGINEERING CONSULTANT | WYSS INSTITUTE AT HARVARD UNIVERSITY BOSTON, MA

[FEB 2024– PRESENT]

- Responsible for developing an initial prototype and meeting pre-seed commercialization milestones
- The development activities include developing hardware components through thermal simulation and mechanical component design, writing software for serial communication and embedded control of thermal system, and GUI

ENGINEERING MANAGER | TORUS BIOSYSTEMS MEDFORD, MA

[MAY 2023– JAN2024]

- Responsible for leading top-level performance issues that resulted in discovering a limitation in the overall convective qPCR technology and proposing a new design that would result in significant performance reproducibility
- Responsible for overseeing the design, prototype, and integration of proprietary qPCR instruments and consumables
- Managed a team of (up to 5) engineers comprised of mechanical, electrical, and software engineering resources

SENIOR MECHANICAL ENGINEER |TORUS BIOSYSTEMS CAMBRIDGE, MA

[NOV 2021– MAY 2023]

- Responsible for developing various critical instrument subcomponents (thermal, optics, and linear actuation) and defining component and system level requirements from early R&D proof of concept prototypes to production-ready state

- Responsible for hardware and software integrations to meet overall product performance requirement metrics

GLOBAL INDUSTRIALIZATION ENGINEER | PHILIPS CAMBRIDGE, MA

[JAN 2020 – OCT 2021]

- Returned to Philips to lead technical investigations to address performance and manufacturability issues discovered during high-volume production
- **Results**: Implemented design and manufacturing solutions that resulted in ~ 25% increase in yield
- **Results**: Verisight ICE catheter received 510(k) clearance on 09/02/2020.

R&D ENGINEER | BOSTON SCIENTIFIC MARLBOROUGH, MA

[APR 2019 – DEC 2019]

- Led R&D, Design quality, manufacturing, and supplier teams to improve the manufacturability of spyglass catheters and other accessory devices
- **Results***:* The yield of catheter cap manufacturing improved by ~25%

SENIOR MANUFACTURING DEVELOPMENT ENGINEER | PHILIPS ANDOVER, MA

[AUG2015 – APR2019]

- Core-team member of 3D Intracardiac Echocardiography catheter development project
- Responsible for developing a custom robotic system for ultra-precision pick and placement of miniature components
- Responsible for leading early-stage prototype activities and root cause investigation across 3 multinational development sites.

EQUIPMENT ENGINEER II | TERUMO CARDIOVASCULAR SYSTEMS

ASHLAND MA

[AUG2014 – JUL2015]

- Responsible for leading various design improvement projects for blood circulation devices

ENGINEER II | SAMSUNG ELECTRONICS AUSTIN, TX

[AUG2010 – JUL2013]

- Responsible for coordinating and managing photolithography setup in a brand new logic chip foundry fab

RENEWABLE ENGINEERING INTERN | GENERAL ELECTRIC SCHENECTADY, NY

[JUN2009 – AUG2009]

- Responsible for managing maintenance and troubleshooting of wind turbine farm performances

Education

MIT Master of Engineering in Biomedical Engineering [May 2014]

CARNEGIE MELLON UNIVERSITY Bachelor of Science in Mechanical Engineering [May 2010]