CHARLES C. WEHR BOSTON, MA
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SUMMARY

Mechanical Engineer, S.B. (*2017*) and M.S. (*2023*). Experience in research, design, and manufacturing, with interest in novel product development. Experience includes leading engineering teams to implement useful quantum computers and novel 3D printing technology. Committed to solving difficult engineering problems from R&D to scaled volumes, and leading others to do so. Currently a Senior Mechanical Engineer working in SLS R&D at Formlabs, based in Somerville, MA.

PROFESSIONAL EXPERIENCE

Senior Mechanical Engineer, Formlabs, Inc. (*under NDA*) - Somerville, MA **2023 - Present**

Working within the SLS R&D team, I lead a team of engineers that focuses on implementing new technologies that will impact the 3D printing market. This includes product definition, task allocation, clever product design, thorough proof-of-concept testing, and working with local and international vendors to prepare a product for launch.

Mechanical Engineer, Quantum Circuits, Inc. (*under NDA*) - New Haven, CT **2018 - 2023**

Worked with a multi-disciplinary team to realize milli-Kelvin temperature superconducting circuit quantum computing. I built and led a team of MEs, focusing on complex packaging and thermal design from the millimeter to the meter scale. I achieved our goals via active input over the entire production process, from prototyping to machining and assembly/implementation. The fragility of quantum devices kept us on our toes and held us to a high standard of quality across the board.

Engineering Research Contractor, Engineering R&D Center, US Army - Vicksburg, MS **2017 Summer**

Worked to optimize autonomous vehicle motion through simulated terrain, implementing robotic path-creation and path-following algorithms within the Autonomous Navigation Virtual Environment Laboratory (ANVEL).

Thermodynamics Teaching Assistant, Harvard University - Cambridge, MA **2016 Fall**

Research Assistant, Harvard University, HUARP - Cambridge, MA **2016 Summer**

Design and manufacture of NO_2 concentration measurement tool (ICOS) to be deployed to the lower stratosphere.

EDUCATION

Yale University (Average: *Honors*) **2022 - 2023**

Mechanical Engineering and Materials Science, M.S.

Harvard College **2013 - 2017**

Mechanical Engineering, S.B.

Relevant Courses:

M.S.:	- Neuromuscular Biomechanics	- Mechatronics	- Solid State Physics
	- Mathematics of Robotics	- Design of Energy Devices	- Soft Robotics
S.B.:	- Thermodynamics/Heat Transfer	- Mechanics of Solids	- Computer Aided Design
	- Mechanical Systems	- Intro EE	- Intro CS

ACADEMIC ENDEAVORS

Dextrous Hand/Arm Manipulation via Sensor Feedback (Indep. Study) **2022 - 2023**

Yale M.S. program: under Prof. Ian Abraham, worked to characterize and control a multi-robotic system (*Franka Emika Panda*, *Wonik Allegro Hand*) from the ground up. Utilized to gain a strong fundamental knowledge of ROS and robotic control (*cartesian, velocity, torque force feedback, operational space, null space, etc.*). Utilized

Mujoco for simulation and troubleshooting. As the independent study period was short (8 mo.), created documentation for further research and implementation.

Soft Robotic Capacitive Sensor (Thesis) **2016 - 2017**

Harvard S.B. program: Working in conjunction with Prof. Robert Howe and the Harvard Biorobotics Lab, researched/designed/implemented a soft sensor to measure and characterize the bending of a soft-robotic "finger." Main areas of research included soft elastomer capacitive sensors, multiplexed signal analysis, and iterative mold design for fabrication.

Stratospheric HCl/CO_2 Detector (Harvard Research Group) **2015 - 2016**

Harvard S.B. research: Working in a group of ~20 under Prof. Jim Anderson to construct a working prototype of an HCl concentration measurement device via laser ICOS technology. Main areas of research included basic optomechanical design, thermal optimization for lasers, and 3D packaging design for high-altitude, low temperature devices.

TECHNICAL EXPERIENCE

(*each line ordered by strength*)

Software:	Solidworks/OnShape		ROS/Mujoco	Ansys Mechanical	COMSOL
Languages:	Python	C++	MATLAB	Objective C	JavaScript/HTML/CSS
Hard Skills:	3D Printing	Mill (CNC/Hand)		Lathe	Laser-Cutting
Management:	JIRA/Confluence	Project Documentation		Gantt Charts	SmartSheet

HOBBIES/EXTRAS

Long Distance Runner - Woodshop/3D Printing Enthusiast - Piano - Backpacking - Language Learning