Sukrit Patwardhan

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EDUCATION

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN
BS in Mechanical Engineering
Highest Honors
Urbana-Champaign, IL
GPA: 3.97/ 4.0

SKILLS

CAD & Simulation:
NX, Solidworks, CREO, ANSYS
Manufacturing Processes:
Injection/compression/insert molding, CNC machining, sheet metal forming, die cutting, rapid prototyping, flex PCBs
High Volume Manufacturing:
GD&T, FAI, CPK, Tolerance Analysis, DFM, DFA
Mechatronics & Robotics:
ROS, embedded systems (Arduino, Raspberry Pi), sensors/actuators (LiDAR, IMU, motors)
Data & Software:
JMP, MATLAB, C++, Python, Swift

AWARDS

Tau Beta Pi: Engineering Honor Society
UIUC Dean's List: All Semesters
Eagle Scout, BSA Troop 476: Nov 2018

SHIPPED PRODUCTS

- 2024 11" M4 iPad Pro
- 2024 13" M4 iPad Pro
- 2023 15" Macbook Air
- 2022 M1 Mac Studio
- Ampaire Electric EEL

PROJECTS

Homekit-Enabled Garage Door Controller
Built an IoT-enabled garage door system with custom PCB enclosure, relay control, and HomeKit integration.

EXPERIENCE

APPLE
Mechanical Product Design Engineer - Mac & iPad
Aug 2022 - Present | Cupertino, CA

- Own design and production of key assemblies in high-volume consumer electronic devices (7M+ units shipped).
- Designed multi-shot injection-molded plastics, compression-molded rubbers, CNC components, die cuts, formed sheet metal parts, and flexible circuit boards.
- Collaborated cross-functionally to optimize for industrial design, product reliability, regulations, product cost, and user experience.
- Oversaw magnet array design for 2024 M4 iPad Pro, ensuring magnetic performance and ecosystem user experience.
- Traveled internationally to suppliers, leading root-cause and failure analysis to unblock factory builds on-site.
- Applied tolerance stack-up and FAI/CPK data to resolve design challenges, improving assembly yields.

Mechanical Product Design Engineer - Mac Co-op
Aug 2020 - Aug 2021 | Cupertino, CA

- Led architecture of Mac Studio power button & status indicator light from concept through mass production.
- Developed, validated, and implemented design solution to regulatory UL test under constrained timeline.

AMPAIRE | Mechanical/Software Engineer Intern
May 2019 - Aug 2019 | Hawthorne, CA

- Designed and constructed a sub scale test rig for hardware validation and wind tunnel testing, including software, wiring, and mechanical mount design.
- Created real-time data acquisition system for flight instruments, improving test throughput.

RESEARCH

MECHATRONICS RESEARCH INTERN
Intelligent Motion Laboratory
May 2020 – Aug 2020 | Urbana-Champaign, IL

- Developed a soft robotics gripper for object disinfection through wiping.
- Designed, prototyped, and manufactured a system to generate 3D environment maps using 2D lidars.
- Built custom ROS package integrating LiDAR-based 3D mapping with robot platforms, enabling autonomous environment interaction.

UNDERGRADUATE ROBOTICS RESEARCHER
CyPhyHouse - Intelligent Robotics Lab
Jan 2020 – May 2020 | Urbana-Champaign, IL

- Developed an iOS app + ROS interface for robot localization and dynamic obstacle injection.