# Sukrit Patwardhan

sukrit.patwardhan@gmail.com | 408-398-9667 | sukr.it

## EDUCATION

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

## SKILLS

NX/Solidworks/CREO/Pro-E
GD&T
Sheet Metal, Injection Molding, CNC
ANSYS
JMP/MATLAB
**C++:** Embedded/Logic Programming
**Python:** Logic Programming
**VBA:** Scripting/Automation

## AWARDS

**Tau Beta Pi:** Engineering Honor Society
**UIUC Dean's List:** All Semesters
**Eagle Scout, BSA Troop 476:** Nov 2018
**California Seal of Bi-literacy:** Spanish

## ACTIVITIES

**Statics/Dynamics Undergraduate TA**

- Taught and guided students through course concepts in office hours and discussion sections.

**HackIllinois iOS Developer**

- Developed UI elements and features in a Hackathon app used by 700+ people at once.
- Integrated a fetch request controller with a custom API for back-end updates, storing long-term in Core Data.

## EXPERIENCE

**APPLE** | Mac/iPad Product Design Engineer
Aug 2021 - Present | Cupertino, CA

- Currently designing assemblies and components in future iPad and Mac products.
- Owned the design of the 2022 Mac Studio Power Button and Status Indicator Light from prototyping to mass production. Designs used in 2023 Mac Studio.
- Travelled internationally and led the resolution of build-blocking issues in the development of the 2023 15-inch Macbook Air.
- Designed metal and plastic parts for multiple manufacturing processes including sheet metal forming, CNC, and multi-shot injection-molding.
- Utilized critical tolerance analyses and visualized relevant FAI/CPK data to create data-driven solutions to design challenges.

**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.
- Implemented a system to read serial data from flight instruments in real time.
- Practiced test driven development in the creation of a hardware controller for interface with an aircraft's power train controller.

**ILLINI FORMULA ELECTRIC** | Society of Automotive Engineers
Aug 2018 - Aug 2020 | Urbana-Champaign, IL

- Led a small team in the development and manufacturing of custom jack stands for vehicle servicing.
- Designed a topology optimized headrest mount using ANSYS to maintain stiffness and reduce weight by 33 percent.

## RESEARCH

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

- Used soft robotics to develop an under-actuated gripper for object disinfection through wiping
- Designed, prototyped, and manufactured a system to generate 3D environment maps using 2D lidars

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

- Developed an iOS application to track robot positioning in an arena and interactively add obstacles through ROS messages

## PROJECTS

**HOMEKIT-ENABLED GARAGE DOOR CONTROLLER**

- Implemented the Homebridge library on a Raspberry Pi to create custom Apple HomeKit devices.
- Used a reed switch to monitor the state of a garage door, and a relay to enable remote control.
- Practiced tolerancing and snap-fit design in the mechanical assembly of a device enclosure.

**ARDUINO CONTROLLED MAGSTRIPE SPOOFER**

- Created a circuit with a coil, motor driver IC, and Arduino in order to generate polarized magnetic fields using a micro-controller.
- Researched magnetic stripe protocols and developed C code to spoof my student I.D. card for building card readers.