SAHIL MODI

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EDUCATION

University of Illinois at Urbana-Champaign   **May 2021**
College of Engineering: **Computer Science**   GPA | 4.00/4.00
CS 225 (Data Structures) | James Scholar Honors

PROFESSIONAL EXPERIENCE

Distributed Autonomous Systems Laboratory, *Undergraduate Research Assistant*   **Aug 2018 – Present**
- Improved a fully-autonomous robotic system that phenotypes a plot of crops (TerraSentia)   **Jan 2018 – May 2018**
- Wrote scripts to automatically update individual robots to the latest software   Urbana, IL
- Currently developing **vision** algorithms to detect plant characteristics

Swarm Robotix, *Software Engineering Intern*   **May 2018 – Aug 2018**
- Worked in a **team** of 5 people to design software architecture for an **autonomous swarm** of robots   Naperville, IL
- **Collaborated** with 3 people to develop **vision** algorithms with **OpenCV** that detected corner castings
- Researched **Convolutional Neural Networks** to improve vision accuracy
- Implemented **SLAM** with **A*** path planning for real-time navigation in the environment

Knowles Electronics, *Software Engineering Intern*   **June 2016**
- Built and configured a Linux cluster to be used as a database   Itasca, IL
- Tested microcontrollers against rated specifications with an oscilloscope
- Researched IC chips to be implemented in microphone testing PCBs

PROJECT HIGHLIGHTS

FaceTunes | *Lead Developer*   **Bluetooth Light Switch | *Team Lead***
An app that plays a song based on current mood   An Internet of Things solution to wireless lighting
- Machine learning detects emotions in an image
  - Facilitated communication and delegated tasks
- Strongest emotion picked to play a song
  - Installable without removal of the current fixture
- Spotify integration with specific mood playlists
  - Used an Arduino, Bluetooth 2.0, and 9g servo motor

LEADERSHIP DEVELOPMENT

ACM SIGBot | 2017 – Present   **iRobotics MRDC** | 2017 – 2018
Software Team   ***Subsystem Lead, Software Team***
- Used ROS with vision to recognize game objects
  - Designed and built the robot's intake system
- Researched KCF and other tracking algorithms
  - Developed code to control various subsystems

Engineering Freshmen Council | 2017 – 2018
IT Chair, 2017 – Present
- Redesigned the EFC main website

SKILLS

Proficient	C++, Python, Java, ROS, Android Development
Intermediate	OpenCV, CAD (Autodesk, SolidWorks)
Beginner	Convolutional Neural Networks

Play Store: smApps   github.com/sahilmodi   linkedin.com/in/sahil-modi   sahilmodi.me