SAHIL MODI

203 S. Sixth Street | Champaign, IL 61820 | Room 102
smodi9@illinois.edu | (847) 890-3506

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**
- Collaborated on a fully-autonomous robotic solution to phenotype a plot of crops   Jan 2018 – May 2018
- Developed tests that simulate real-time performance in the field   Urbana, IL
- Developing **vision** algorithms to detect plant characteristics

Swarm Robotix, *Software Engineering Intern*   **May 2018 – Aug 2018**
- Designed software architecture for an **autonomous swarm** of MACJAC robots   Naperville, IL
- Wrote **vision** algorithms with **OpenCV** that detected and tracked 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**
- Fully 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

ADA Sidewalk Compliance Software | *Software Developer*   **FaceTunes | *Lead Developer***
Software that detects and analyses sidewalk panels   An app that plays a song based on current mood
- Mask RCNN used to isolate sidewalk panels in image   - Machine learning detects emotions in an image
- Developing faster segmentation techniques   - Strongest emotion picked to play a song
- Developing point cloud analysis to detect vertical faults   - Spotify integration with specific mood playlists

LEADERSHIP AND ACTIVITIES

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