SAHIL MODI

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

EDUCATION

University of Illinois at Urbana-Champaign
College of Engineering: **Computer Science**
Courses: Discrete Math, Linear Algebra, Data Structures, Computer Architecture

May 2021
GPA | 4.00/4.00
James Scholar Honors

PROFESSIONAL EXPERIENCE

Distributed Autonomous Systems Laboratory, *Undergraduate Research Assistant* — **Jan 2018 – Present** — Urbana, IL
- Improving a fully-autonomous robotic system that phenotypes a plot of crops (TerraSentia)
- Writing scripts to automatically update individual robots to the latest software
- Retrained a **CNN** that categorizes the heading of wheat into 3 classes with 90% accuracy

Swarm Robotix, *Software Engineering Intern* — **May 2018 – Aug 2018** — Naperville, IL
- Worked in a **team** of 5 people to design software architecture for an **autonomous swarm** of robots
- **Collaborated** with 2 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** — Itasca, IL
- Built and configured a Linux cluster to be used as a database
- Tested microcontrollers against rated specifications with an oscilloscope
- Researched IC chips to be implemented in microphone testing PCBs

PROJECT HIGHLIGHTS

FaceTunes | *Lead Developer*
An app that plays a song based on current mood
- Machine learning detects emotions in an image
- Strongest emotion picked to play a song
- Spotify integration with specific mood playlists

Bluetooth Light Switch | *Team Lead*
An Internet of Things solution to wireless lighting
- Facilitated communication and delegated tasks
- Installable without removal of the current fixture
- Used an Arduino, Bluetooth 2.0, and 9g servo motor

LEADERSHIP DEVELOPMENT

ACM SIGBot | 2017 – Present
Software Team
- Used ROS with vision to recognize game objects
- Researched KCF and other tracking algorithms

iRobotics MRDC | 2017 – 2018
Subsystem Lead, Software Team
- Designed and built the robot's intake system
- 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