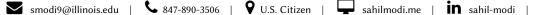
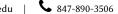
# SAHIL MODI















# **EDUCATION**

### University of Illinois at Urbana-Champaign

May 2021 GPA: 3.95/4.00

B.S. Computer Science, Minor in Statistics

Coursework Algorithms, Computational Photography, Deep Learning, Machine Learning, Reinforcement Learning

\$5000 TechnipFMC & \$3000 TBP Hayward Scholarships, 2<sup>nd</sup> place at PygHacks, 2<sup>nd</sup> place at Clorox competition **Awards** 

#### **TECHNICAL SKILLS**

Python, C++, C, Java, Javascript, Typescript, Bash

Frameworks PyTorch, OpenCV, TensorFlow, Linux, Git

#### PROFESSIONAL EXPERIENCE

**Amazon** May 2020 - Aug 2020

Software Development Engineer Intern

Seattle, WA

- Reduced aggregate Javascript asset build time by 18.5% and decreased memory usage by 11%
- Analyzed code syntax trees for unfavorable behavior, decreasing final asset size by 5%
- Designed a variant generation algorithm an order of magnitude faster for server built variants and client responsive variants

#### **Distributed Autonomous Systems Laboratory**

Jan 2020 - May 2020

Undergraduate Research Assistant | Advisors: Dr. Girish Chowdhary, Dr. Saurabh Gupta

Urbana, IL

- Investigated vision-based robot heading estimation with an self-supervised network on PyTorch achieving 2 degrees error
- Devised a supervised network for autonomously calculate pose and drive a robot with distance to intervention of 30 meters
- Augmented video data with homographic transformations to simulate robot variance and increase dataset coverage

Sep 2019 - Dec 2019 **EarthSense** 

Computer Vision Research Intern | Advisor: Dr. Girsh Chowdhary

Champaign, IL

- Ascertained intrinsic camera matrix of Terrasentia robot cameras
- Achieved 92% accuracy for corn ear height estimation from video by fusing a neural network with single view metrology

# **Northrop Grumman**

May 2019 - Aug 2019

Software Engineering Intern

Rolling Meadows, IL

- Developed a C# application to configure and test missile warning algorithms and pulled in project schedule by 2 months
- Implemented an algorithm to calculate orientation from a set of points with singular value decomposition

**EarthSense** Sep 2018 - May 2019

Computer Vision Intern

Champaign, IL

- Trained a convolutional neural network with TensorFlow on a biased dataset to classify lodging of wheat with 80% accuracy
- Deployed a **TensorFlow ML** model to detect and count plant stems with 96% accuracy

**Swarm Robotix** May 2018 - Aug 2018

Software Engineering Intern

Naperville, IL

- Collaborated with 2 people to create vision algorithms with **OpenCV** to detect shipping container corner castings
- Applied known **SLAM** algorithms with A\* path planning on a TurtleBot for real-time navigation

# PROJECT HIGHLIGHTS

#### **HackIllinois Stock Analysis**

- · A python package discovering sentiment about a company from its tweets using NLTK and correlating it with stock price
- · Linear, ridge regression, and a convolutional neural network are used for prediction and compared against each other

- Devised an Android application to report an item's recyclability status in the Urbana-Champaign area, winning 2<sup>nd</sup> at PygHacks
- Trained a convolutional neural network for object recognition with Keras to overcome lighting and object variance

# **LEADERSHIP**

#### **CS** 374: **Algorithms** | *Course Assistant*

2020 - Present

· Assisting graduate TAs with office hours and grading student homework

#### **DGS Leader** | Class Representative

2019 - Present

• Providing advice to Division of General Studies director on pre-engineering events and information

#### **Engineering Freshmen Council** | *IT Chair*

2017 - 2018

• Redesigned Engineering Freshmen Council website

#### **iRobotics** MRDC | Software Lead

2017 - 2018

• Managed a team of 3 to design and develop the robot's software stack