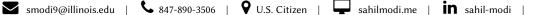
SAHIL MODI















EDUCATION

University of Illinois at Urbana-Champaign

May 2021

B.S. Computer Science, Minor in Statistics

GPA: 3.95/4.00

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

\$5000 TechnipFMC & \$3000 TBP Hayward Scholarships, 2nd place at PygHacks, 2nd 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 2nd 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