

NIKHIL BHAT

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Education

NORTHEASTERN UNIVERSITY BACHELOR OF SCIENCE IN COMPUTER ENGINEERING & COMPUTER SCIENCE

MAY 2021

GPA: 3.98/4.00 Honors Program

Activities: TA for Discrete Structures, Founding Member of Northeastern Robotics & Automation Society, Mentor for FTC Robotics Team, Teacher at MIT Splash, Honors Living Learning Assistant for Northeastern Honors Program, Build Studio Engineer at Northeastern Generate

Coursework: Computer Vision, Algorithms and Data Structures, Object Oriented Design, Embedded Design: Enabling Robotics

Skills

LANGUAGES – Experienced: Python, C++ | Proficient: Java, Swift | Exposure: HTML, MATLAB

TECHNOLOGIES – OpenCV, ROS, Arduino, Git

Employment

SOFTWARE ENGINEERING CO-OP GREENSIGHT AGRONOMICS

JANUARY 2019 – JULY 2019

Python, OpenCV, ROS, C++

- ❖ Developed an autonomous drone navigation system using OpenCV which won the company \$30,000 in the Verizon 5G Robotics Challenge
- ❖ Designed a self-correcting algorithm for heliostat motion, by using OpenCV coupled with a PID controller to account for GPS errors
- ❖ Implemented SLAM navigation algorithms using a combination of 2D LIDAR and depth cameras for an autonomous ground robot
- ❖ Created and deployed a ROS network of 100 interconnected devices to track the sun and generate solar power

DATA ANALYST INTERN BARNES AEROSPACE

MAY 2018 – AUGUST 2018

Python, NumPy, Pandas, VBA

- ❖ Reduced turbine center frame inspection times by 30% by developing a Python program to implement statistical process control
- ❖ Designed a heavily depended-on error reporting software using PyQt5 and MySQL for supervisors to monitor the manufacturing plant
- ❖ Developed an algorithm in Python to categorize part defects based on problem description fields utilizing regular expression matching
- ❖ Built a VBA application to dynamically schedule manufacturing operations, accounting for variable lead times and delivery delays

UNDERGRADUATE RESEARCH ASSISTANT NORTHEASTERN UNIVERSITY FIELD ROBOTICS LAB

OCTOBER 2017 – APRIL 2018

C++, ROS, Python, ViSP

- ❖ Programmed a real time kinematic GPS driver using C++, and integrated it into the autonomous car ROS environment
- ❖ Implemented an image labeling platform using Python to label underwater fish datasets
- ❖ Furthered development in drone navigation techniques utilizing AprilTag image detection with ViSP and OpenCV

ROBOTICS AMBASSADOR CONNECTICUT SCIENCE CENTER

JUNE 2014 – AUGUST 2015

Arduino, C++

- ❖ Increased accessibility for disabled patrons of the Hartford Farmer's Market by manufacturing an autonomous shopping robot utilizing Arduinos, GPS Shields and IR sensors to follow the customer
- ❖ Designed and built a robotics exhibit involving driver-controlled soccer robots playing against an Arduino-based autonomous goalie

Leadership

NORTHEASTERN IEEE

AUGUST 2017 – PRESENT

VICE PRESIDENT

- ❖ Facilitated and ran club meetings for the largest professional engineering society at Northeastern

CAREER SUMMIT CHAIR

- ❖ Organized an ECE career fair attended by over 100 ECE students by reaching out to companies across the Greater Boston area

REACH COLLEGE CONSULTING

MAY 2018 – PRESENT

CEO & CO-FOUNDER

- ❖ Founded a company to help students with the entire college application process, from selecting schools to interview preparation
- ❖ Improved the SAT scores of 100% of clients, and helped 2 clients achieve perfect scores

Personal Projects

FANCILY

A machine-learning iOS app to recommend daily outfits from a user's closet based on individual stylistic preferences

DON'T TOUCH MY OJ

A Raspberry Pi based vision system which sends a text alert when other people take your food from the fridge.

SESQUIPEDALIAN

A Words with Friends solver, which reads the current game board using OpenCV based OCR and produces the highest scoring move.

ALL OF THE LIGHTS

A Python program which pulsates multicolored LEDs based on the mood and BPM of the current song by querying the Spotify API

ENDLESS TRIVIA

A multiplayer Python game which uses the Wikipedia API to generate an endless amount of random trivia questions of varying difficulties