

# 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, 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

## Work Experience

**INTEL SOFTWARE ENGINEERING CO-OP**

JANUARY 2020 – PRESENT

*Python, OpenCV*

- ❖ Implementing computer vision algorithms for 3D athlete tracking for the Tokyo 2020 Olympic Games

**GREENSIGHT SOFTWARE ENGINEERING CO-OP**

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 LIDAR-based SLAM navigation algorithms for an autonomous ground robot using ROS and Google Cartographer
- ❖ Created and deployed a ROS network of 100 interconnected devices to track the sun and generate solar power

**BARNES AEROSPACE DATA ANALYST INTERN**

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

**NORTHEASTERN UNIVERSITY FIELD ROBOTICS LAB UNDERGRADUATE RESEARCH ASSISTANT**

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

## 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

## Skills

**LANGUAGES** – Python, C++, Java, MATLAB

**TECHNOLOGIES** – OpenCV, ROS, Arduino, Git

## 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 Raspberry Pi lightshow, 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