

Aditya Prasad

Email: aditya05.prasad@gmail.com

EDUCATION **BISHOP GUERTIN HIGH SCHOOL** 2019 - PRESENT
GPA: 4.13
Relevant Courses: AP Calculus AB/BC, AP Chemistry, AP Computer Science Principles, Physics Honors

RESEARCH EXPERIENCE **RESEARCH ASSISTANT, DUKE UNIVERSITY** OCT 2020- FEB 2022

Project Name: Designing a semi-autonomous Robotic Arm System

(Background: The Robotic arm allows a user to remotely conduct grasping tasks)

- Coded and tested the Robotic Arm User Interface
 - Developed GUI using Python - Kivy, a multitouch application software
 - Tested how users would learn to use the Robotic ARM system through Human Experimentation
- Developed training modules that teaches users to teleoperate the robotic arm
 - Module 1: Introduction to the Robotic Arm System
 - Module 2: Control Interface and Obstacle Avoidance
- Learned Robot's Controls, Programming, and conducting Human experiments
- Gained technical expertise in: Linux (Ubuntu), UNIX scripting, Python

Project Name: Testing Efficiency and Safety on an Aircraft Carrier Flight Deck through a Simulation

(Background: An Optimal Manning Simulation was developed to quantify the risk and efficiency of people working on the flight deck)

- Tested the simulations and reported defects to the developer
- Collected data to analyze and support the claim of the research paper.
- Represented the collected data in graphs generated through Excel and Python libraries (Plotly/Matplotlib) to contribute to the research paper.

Project Name: Finding Vulnerabilities in Data Labelling in Computer Vision

(Background: Pascal VOC 2012 dataset will be used for the above research and claim)

- Setup PyTorch and TensorFlow Neural Networks which will be used in testing vulnerabilities in data labelling

LEADERSHIP **FIRST ROBOTICS TEAM, PROGRAMMING LEAD** SEP 2019 - PRESENT

AND
EXTRA-
CURRICULAR

- Employed my knowledge of Java to use object-oriented programming to program shooter to shoot ball through circular target and drive train
- Used color sensors to stop spinning color wheels at specific color.
- Aided in programming autonomous and tele-operated navigation of robot
- Taught new programmers of the team Java in pre-season of this year

RED CROSS CLUB, PRESIDENT JULY 2019 - PRESENT

- Organize annual high school blood drive
- Created CPR presentation
- Advocate for the importance of donating blood
- Sign in Donors at Blood Drive
- Volunteered more than 75 hours in 2019
- Recruit and onboard new club members

KNOWME, FOUNDER AND CREATOR

MAY 2019- JUL 2019

- Developed an iOS app called KnowMe using Swift and Firebase
 - KnowMe helps high school students better manage their time and find their interests
 - User inputs how much time spent on an activity or subject and rates it on a scale of one to five.
 - Data is stored in a database and over time users can use a calendar type interface to select a date range and generate charts that show how much total time they are spending on each activity and how interested they are about the activity based on the hours inputted and how many stars they rate the activity.

FIRST TECH CHALLENGE

SEP 2020 - MAY 2021

- Used object-oriented programming to efficiently program drivetrain and shooter of Robot
- Implemented TensorFlow for robot to count number of rings in stack in autonomous mode
- Employed Inertial Measurement Unit (IMU) to move robot more precisely and accurately
- Used telemetry to send feedback from robot to driver station
- Used CAD (Onshape) to aid in design of robot
- Assembled and wired drive train of robot
- Second Place for Control Award at May 2021 FIRST Tech Challenge State Qualifier

Medify, FOUNDER AND CREATOR

JUN 2021-AUG 2021

- Used VGG19 transfer learning model to classify 5 different lung and colon cancer classes
- Implemented Flask framework to build web application

PIANO

- Three-time Crescendo International Competition Winner (2018, 2019, 2020)

COMMUNITY SERVICE**POWER SCHOLARS ACADEMY VOLUNTEER**

THE YMCA OF GREATER NASHUA HAS PARTNERED WITH NATIONAL EDUCATIONAL NONPROFIT BELLXCEL AND THE YMCA OF THE USA TO IMPLEMENT POWER SCHOLARS ACADEMY (PSA), A FREE-OF-COST SUMMER PROGRAM THAT EXPANDS LEARNING TIME TO IMPROVE THE ACADEMIC ACHIEVEMENTS, SELF-CONFIDENCE AND LIFE TRAJECTORIES OF ELEMENTARY SCHOOL STUDENTS IN NASHUA, NH WHO ARE PERFORMING BELOW GRADE LEVEL.

JUL 2020 – AUG 2020

- During the pandemic when this program was run remotely, I created STEM experiment videos for the K-2nd and 2nd-5th grade levels that can be done at home. A total of 12 videos were delivered.

Jul 2021 – Aug 2021

- Volunteered four days a week as academic and enrichment support in the sixth-grade classroom.
- Assisted teachers as an academic assistant.
- Conducted STEM experiments to engage.

SKILLS**COMPUTER SOFTWARE**

- OS experience: Windows, Mac OS, and Linux(Ubuntu)
- Programming Languages: Python, Swift, Java, C#, C++
- Others: Git

AWARDS AND
HONORS

- Congressional App Challenge 2021
 - Yale Science and Engineering Award 2022
 - Crescendo International Piano Competition Winner: 2018, 2019, 2020
 - National Honor Society
 - Honor Roll Student
-