SHARWIN PATIL

Co-op/Internship Availability: July - December 2023

@ patil.sha@northeastern.edu

J +1 (925) 389-8466

Boston, MA

Sharwin24

in SharwinPatil

EDUCATION

Northeastern University | Candidate for Bachelor of Science in Computer Engineering & Computer Science, Minor in Robotics

Expected Graduation: 05/2024

- GPA: 3.6, Dean's List (all semesters)
- Relevant Courses: Object Oriented Design, Algorithms and Data, Computer Systems, Embedded Design: Enabling Robotics, Circuits and Signals: Biomedical Applications, Robot Dynamics and Control.
- Fundamental Courses: Computer Science (II), Electronics, Digital Design and Computer Organization, Networks, Cornerstone of Engineering, Calculus (III), Differential Equations & Linear Algebra.
- Activities: NURobotics Club Project Lead and Lead Intro Course Instructor, Club Water Polo Vice President. First-year Engineering Tutor.

Dougherty Valley High School

6 06/2019

San Ramon, CA

• Activities: Vex Robotics Competition (VRC) (Team Captain and Lead Design/Build), Led VRC team to Vex Robotics World Championship in 2018 & 2019. Varsity Water Polo

EXPERIENCE

Fulfil Solutions Inc | Incoming Robotics Software Controls Co-op

1 07/2022 - 12/2022

Redwood City, CA

Doble Engineering | Software Engineering Co-op

i 07/2021 - 12/2021

Marlborough, MA

- · Developed an external data persistence mechanism in C# with the .NET framework, designed to handle I/O management, to be inserted into various Doble propietary software
- Designed and deployed an installation wizard using Windows Presentation Foundation (WPF) for updating firmware on Doble instruments.
- Maintained software products in an Agile project management environment.

Northeastern University | First-Year Engineering Tutor

iii 01/2021 - Present

- Tutor first-year students in SolidWorks, C++, AutoCAD, MATLAB, and Arduino.
- Assist students with projects utilizing workshop machines (Bandsaw, Laser Cutter, 3D
- Member of FYELIC Advisory team, which guides and aids prospective FYELIC tutors.

Dougherty Valley Robotics Club | Team Captain & Summer Camp Mentor

= 09/2015 - 06/2019

San Ramon, CA

- Drove the design, engineering and fabrication process for a competitive robot that was able to interact with physical objects and perform tasks.
- Wrote robot micro-controller in C++ for the control system.
- Documented and recorded the engineering process to present to judges at tournaments.
- Developed a curriculum to teach 30 middle school students the fundamentals of robotics with the VEXIQ system, students were ultimately able to construct and program a robot capable of completing multiple tasks and compete against other teams.

AWARDS

BSA Eagle Scout | VRC CA State Champion 2018 & 2019

VRC Awards (17x)

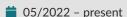
Varsity Water Polo MVP 2018 & 2019

SKILLS

C/C++/C# Pvthon Arduino Java **MATLAB** SolidWorks Linux 3D Printing Lisp

PROJECTS

Robot Arm | 😱



- Designed and constructed a 3-link planar robotic manipulator as an educational tool for students to utilize for learning the kinematics and dynamics of robotic manipulators.
- Developed custom libraries in C++ for students with little coding experience to program movements and perform trajectory planning.
- Collaborated with professor Rifat Sipahi (r.sipahi@northeastern.edu) to make the robot arm into a kit for the course ME3460: Robotic Dynamics and Con-

Chess Robot | 😱



03/2021 - 05/2022

NURobotics Club

- Constructed a X/Y Plotter with a modified manipulator to interact with custom chess pieces. Built with customdesigned, 3D printed parts using Solid-Works and Prusa 3D Printers.
- Implemented Arduino and Rasberry Pi components to control stepper motors, read the board state using computer vision, and display information to the

Aquatic Swarm Robots | 😱



= 04/2022

Atlanta, GA

RoboTech 2022 Hackathon Submission

 Created a graphical simulation in Python for a swarm of autonomous aquatic drones tasked with cleaning algal blooms within a body of water utilizing pathfinding algorithms such as A* Search and

Image Manipulator | 😯



i 06/2021

CS3500: Object-Oriented Design

- Developed a Java project to apply manipulations and enhancements to images and export them as various file types.
- Utilized the Model-View-Controller design pattern for improved extendibility and ease of modification.