

# SHARWIN PATIL

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San Ramon, CA

Sharwin24

SharwinPatil

## EDUCATION

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

Expected Graduation: 05/2024

Boston, MA

- 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

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 (Captain).

## EXPERIENCE

### Doble Engineering | Software Engineering Co-op

07/2021 - 12/2021

Marlborough, MA

- Developed an external data persistence mechanism designed to handle I/O management, to be inserted into various Doble proprietary software products.
- Designed and deployed an installation wizard using Windows Presentation Foundation (WPF) for updating firmware on Doble instruments.

### Northeastern University | First-Year Engineering Tutor

01/2021 - Present

Boston, MA

- Tutor first-year students in SolidWorks, C++, AutoCAD, MATLAB, and Arduino.
- Assist students with projects utilizing workshop machines (Bandsaw, Laser Cutter, 3D Printers).
- 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

Java

C#/C/C++

Python

Linux

Arduino

MATLAB

SolidWorks

LaTeX

3D Printing

## PROJECTS

### Image Processor in Java |

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 a highly Object-Oriented approach using the Model-View-Controller design pattern for improved extensibility and ease of modification.
- Collaborated with a classmate and utilized a GitHub repository to document the workflow.

### Excel To LaTeX Converter |

12/2020

- Developed Python script to accept user input of copied Excel cells and convert to source code for a LaTeX table.
- Implemented user input to allow for improved utility and customization of the table's settings.

### Interactive Chess in Java |

09/2021 - Present

- Developing a command-line application in Java to play Chess with textual prompts and input.
- Designing with an emphasis on extensibility using the Model-View-Controller design pattern. Currently implementing a textual view with plans to later introduce a graphical interface and view.

### Chess Robot |

03/2021 - Present

#### NURobotics Club

- Construct a X/Y Plotter with a modified manipulator to interact with chess pieces.
- Implement Arduino and Raspberry Pi components to read the board state, control motors, and display information to the user.
- Design custom chess pieces and parts for the X/Y Plotter utilizing a 3D Printer.
- Incorporate a Chess AI to play against a human player.