MRUGANK PEDNEKAR

ROBOTICS PROGRAMMER

PROFILE

A solution oriented and passionate robotics programmer with robust problem solving skills with proven experience on projects involving Aerial Robotics, Automation, PCB Design, Control Systems, Web Design, and Coding. Additionally, an active member of a university level robotics team who thrives in a test-driven environment.

PROFESSIONAL SKILLS

- C++
- JAVA
- Object oriented programming
- Arduino
- PCB etching
- Robotic Systems - Sensors, Actuators, Microcontrollers, ICs.
- Soldering
- Algorithms and Data Structures

PERSONAL SKILLS

- Solution oriented
- Efficient programmer
- Analytical thinker
- Innovative
- Content strategist
- Problem solving
- Conceptive
- Hardworking
- Driven

CONTACT

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PROJECTS

PERSONAL PROJECT WEBSITE
June 2020

- A website containing my profile, curriculum vitae, experiences, and a technical guide for each of my projects. Coded in HTML and CSS on Github.

QUADCOPTER
March 2018

- Carbon fibre frame racing drone, with provisions for real time visual footage, along with First Person View using a headset. Used F3 Flight Controller, Optical ESCs, Brushless Motors.

PID LINE FOLLOWER
April 2018

- Line following robot with PID(Proportional Integral Derivative) and PWM(Pulse Width Modulation). Used Arduino Nano, TB6612FNG motor driver, digital 8 IR sensor array and coded with Arduino IDE.

HOTEL MANAGEMENT PROJECT
April 2018

- Made a demonstrative management system for a hotel. Provisions for reserving a room, cancelling reservation, calculating cost of stay, assigning rooms, Displaying all of the above information .Coded in JAVA.

ALL-TERRAIN ROBOT
May 2018

- Wireless robot, made with a 433Mhz transmitter and receiver system, with a 2A motor driver. Range of 60 metres. Dpdt(Double Pole Double Throw) switches for controlling the robot.

DESIGNED ETCHED PCB
Apr 2017

- PCB for mounting arduino nano, and TB6612FNG motor driver for eliminating jumper wires and obtaining clean connections. Used EAGLE CAD for circuit design and etched using a heat conduction method and Ferric Chloride.

ELECTRIC PENNY-BOARD
July 2017

- Single rear drive wireless Electric Skateboard, made with brushless motor, esc, custom welded motor mount. Controlled with a wireless 2.4Ghz controller.

SENSOR EQUIPPED ROBOTS
Nov. 2016 - March 2018

- Autonomous robot, capable of solving a non-looped maze and finding the shortest path. Used the left hand on the wall algorithm. Used arduino nano, TB6612FNG motor driver, analog 8 IR sensor array.Coded with Arduino IDE.
- Autonomous robot, capable of detecting obstacles and edges in its path using ultrasonic distance sensors, and an arduino. Coded with Arduino IDE.
- Autonomous robot which moves in the direction of light. Made with a light dependent resistor which controls the movement of the actuators.

EDUCATION

MUSHTIFUND ARYAANS HIGHER SECONDARY SCHOOL | 2018 - PRESENT

SHARADA MANDIR SCHOOL | 2016 - 2018

ICSE(Indian Certificate Of Secondary Education)

- Graduated with 92.17%

ACHIEVEMENTS

- Part of Team Phoenix, which won 2nd Place in Line Follower at "BITS Quark" - BITS Goa's Technical Fest.
- Best Robot Design at SCIFFI (Science Film Festival Of India).
- Part of Team Phoenix, which won combat robotics event at "SHAASTRA", IIT-Madras.
- Article on Robotics Featured on the Front Page of TGIS(The Goan In School) Newsletter.
- 4th Position in the "Maze Solver Robot" event at "SHAASTRA", IIT- Madras.
- Introduced robotics to 13 school students, and guided them to build their first android controlled robot, using an arduino, L293D motor driver, motors and an android smartphone.