Piyush Singh

C-6/152, DGQA Residential Complex,
Ghatkopar west, Mumbai – 400086

+91-9082397442

piyush.singh.office@gmail.com

Career Objective

Highly-motivated Mechanical Engineer graduate from Mumbai University with hands-on experience in machine learning models and robots using inverse kinematics. Additionally, greater understanding in building a formula student race car. Seeking a position at autonomous vehicle industry to leverage mechatronics industry.

Education

New Horizon Institute of Technology and Management / Mumbai University
B.E. in Mechanical Engg. / May 2017 – Present
Final Year: CGPA 7.68

Central Board of Secondary Education
Graduated May 2016 / Delhi, India
Class 12: 77.4 %

Graduated May 2014 / U.P., India
Class 10: CGPA 7.4

Experience

Founding Member
N.H. Motorsports / Thane / 2019 -2021

- One of the founding member of N.H. Motorsports team for the FSAE Formula Bharat student competition.
- Sponsor Head and Steering Dept. Head.
- Designed and fabricated the steering system.

In-Plant Trainee
Western Railway, Carriage Repair Workshop / Mumbai / Dec 2019 / 2 Weeks

- Prepared reports and technical documentation of day-to-day production processes.
- Reviewed production schedules and streamlined processes.

Project Management Intern
Larsen & Toubro Defence I.C. / Powai / Jun 2019 - July 2019 / 4 Weeks

- Worked on hydraulic systems for defence projects. Assured quality of different materials for turret systems.
- Used MS Excel to create and maintain comprehensive project documentation.
- Coordinated internal resources and third-party vendors for flawless execution of projects.

Links

Website://**www.piyushsingh.in**

LinkedIn://**piyushsinghofficial**

Github://**piyush.singh.office**

Soft Skills

•Project Management
•Multi-tasking
•Goal-oriented
•Creative
•Adaptable

Technical Skills

Programming Languages:
•C/C++ •Python •NodeJS •Dart

Other Languages:
•HTML/CSS/JavaScript

Analytics:
•MongoDB •Excel

Software:
•AutoCAD •PTC Creo •SolidWorks •MATLAB
•Ansys •Kali Linux •Cura

Tools:
•Git •Pygame •Selenium •NumPy
•Matplotlib •Pandas •Jupyter Notebook
•Bootstrap •Tkinter •ElectronJS •ThreeJS
•BabylonJS •Heroku •NPM •multi-Threading

Manufacturing:
•FDM 3D Printing •Lathe Machining •Drilling
•TIG Welding

Awards

Won "Bronze Medal" by NSO for National Science Olympiad in December- 2014

Achievements

- Achieved 18th Rank in the FSAE Combustion quiz competition
- Successfully organized industrial visit at Defence Ordinance factory, Ambernath

Projects

Quadruped Robot with 12 DOF

- Designed the quadrupedal robot using SolidWorks.
- Designed the electronic schematics of the robot.
- Manufactured the robot body using FDM 3D Printer.
- Soldered and assembled all the parts together.
- Programmed the robot using C based on the mathematical concepts like inverse kinematics.
- Incorporated Xbox controller to control the robot movements wirelessly using multi-thread programing in python using PyGame.

Future Work:

- To integrate Raspberry Pi to make the robot work wirelessly.
- To add shock absorbers to make the robot more compliant.
- To add rich motion skills to make the robot more dynamic.
- To Integrate reinforcement learning to avoid obstacles.
- To install a camera support to inspect robot's surroundings.
- To use Brushless motors instead of servo motors for fluid motion.

3D Printer

- Assembled FDM 3D printer.
- Installed and updated the firmware of the 3D printer.

Quadruped Robot with 8 DOF

- Assembled the quadrupedal robot using Arduino Nano.
- Programmed the robot using C.
- Integrated IR remote sensing for wireless control.
- Implemented Reinforcement Learning to avoid obstacles using Ultrasonic sensor.

Formula Student Race Car

- Designed and Fabricated Steering system and chassis of NH Motorsports Formula Student Race Car for the event Formula Bharat 2021.
- Assisted in recruiting and expanding the team from 20 members to more than 50 members team.
- Brought sponsors for the catch can, EN24 Aluminium Rod, nuts and bolts, power train, laser cutting, milling, etc.
- Aided in assembling all the parts to build the formula student race car.

Workshop Details

Machine Learning Workshop

IIT Bombay / 2 Days

- Learned the Machine Learning core concepts like supervised learning, unsupervised learning, reinforcement learning.
- Learned how various industries are using machine learning models to solve real world problems.
- Built a Facial Recognition system using OpenCV.

MOOC Certificates

- Getting Started with Python / University of Michigan / Coursera
- Python Data Structures / University of Michigan / Coursera
- Data Science Ethics / University of Michigan / Coursera
- Introduction to Big Data / University of California / Coursera
- AI for everyone / Deeplearning.ai / Coursera
- Machine Learning: Regression / University of Washington / Coursera
- Network Security & Database Vulnerabilities / IBM / Coursera