Prabhakar Jaiswal

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Education----------

Sardar Vallabhbhai National Institute of Technology, Surat, India Bachelor of Technology, Electrical Engineering | 3rd Year	*CGPA*: **8.54/10**	***2019 - Present***
Saraswati Vidya Mandir Munger, Bihar, India Central Board of Secondary Education (CBSE) | XII Standard	*Aggregate*: **79.8%**	***2018***
Saraswati Vidya Mandir Munger, Bihar, India Central Board of Secondary Education (CBSE) | X Standard	*CGPA*: **9.6/10**	***2016***

Work Experience----------

SVNIT Surat — *Surat, India*
Internship — (*Jan 2021- Present*)

-> Currently working under the supervision of Dr. Shweta M. Shah in the field of "Simultaneous localization and mapping by autonomous UAV".

-> Design and assembled a quadcopter weighing approx. 2.5Kg equipped with Intel realsense and Stereo camera.

-> Working on wireless streaming and processing of camera and point cloud data.

-> Learned Drone concepts, Ardu pilot, Pixhawk, Autonomous flight planning by Mission planner and Qground control

Drishti, Student Chapter SVNIT Surat — *Surat*
Member — (Aug *2020- Present*)

-> Currently working under the supervision of Dr. Vimal K. Patel for the international robotics competition ABU ROBOCON 2022. Designing and manufacturing two autonomous robots according to the problem statement.

-> Implementing Image processing, Indoor localization, autonomous control of robots.

SAE, Student Chapter SVNIT Surat — *Surat*
Member — (May *2020- Jul 2020*)

-> Participated in GKDC EV concept challenge 2020, learned about go-karts and its design parameters, different component selection methods.

->Selected best suitable components and designed circuit for low and high voltage circuits on Proteus.

Projects----------

Auto pilot Quadcopter for 3D mapping of construction sites — *Team Project* (*Jan 2022 – Present*)

-> Built a quadcopter from scratch with Pixhawk 4 FC, T-motor BLDC motors, 10000Mah 4S lipo battery, Calculations done with ecalc.ch

-> Designed a UAV that can be used mapping of construction buildings and places where human presence is dangerous are inefficient.

Simulation of Autonomous Car in ROS2 foxy Gazebo — *Team Project* (*Mar 2021 – Jul 2021*)

-> Participated in NXP AIM online design challenge organised by NXP SEMICONDUCTORS.

-> Applied lane detection using HSV filter OpenCV, A* algorithm, custom obstacle avoidance algorithm using lidar, Yolo v3 traffic sign recognition trained on custom dataset.

-> Top 10 finalist in final stage among 600+ teams.

Underwater Autonomous Robot

Team Project
(Oct 2020 – Jun 2021)

-> Participated in Robofest 2.0 competition organised by GUJCOST.
-> Designed an underwater Robot which has the ability to be completely submerged and having 3-DoF.
-> Multi terrain land, water and ice surfaces; wireless control, innovative r-hex mechanism.

ABU Robocon 2021

Team Project
(Oct 2020 – Mar 2021)

-> Participated in just stage 1 of ABU Robocon 2021 due to covid but got 100/100 in design detail report.
-> Designed 2 semi-autonomous robots according to problem statement.
-> Role: localization using IMU and encoder, sensor integration, Power management board, Solenoid control circuit for pneumatic, stepper motor control

Relevant Courses----------

-> Short term training program on Embedded C for ARM Cortex M4 microcontroller
-> Machine learning by Stanford University (Coursera)
-> Convolutional neural network by deeplearning.ai (Coursera)
-> Algorithmic toolbox (Coursera)
-> Neural networks and deep learning by deeplearning.ai (Coursera)
-> Natural language processing with classification and vector spaces (Coursera)

Technical Strengths----------

-> Programming Languages	C++, C, Python, HTML, CSS
-> Software Packages	ROS, Proteus
-> libraries	OpenCV, Pandas, Matplotlib, NumPy, Scikit-learn
-> Computer Graphics	Blender, Adobe Premiere Pro
-> Other	Git, Linux

Academic Achievements----------

-> Consolation prize of 50k in the GUJCOST Robofest 2.0 stage 2 and 50k assistance prize in stage 1.
-> NXP AIM Online design challenge Top 10 finalist among 600+ participants.
-> GKDC EV Concept challenge 2020 Winner.
-> Vidya Bharti National Science Exhibition 2018 2nd runner up.
-> Selected in stage 1 of Young Scientist India 2016 organized by Space Kidz India and participant in finals.
-> CBSE National level science fair 2016 New Delhi Participant, State level winner.

Extracurricular Activities----------

-> Interested in video editing and 3D animations.
-> Senior member at Technical Club Drishti at SVNIT, Surat.
-> Interested in Chess and Badminton.