

# Krushnal Patel

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## SKILLS

### LANGUAGES

C++ • Python •  $\text{\LaTeX}$   
JavaScript • HTML/CSS

### TOOLS+TECH

Linux • ReactJS • NodeJS  
ROS • MongoDB • Azure  
CI/CD • VCS

### SOFT SKILLS

Leadership • Communication

## EDUCATION

### DELHI TECHNOLOGICAL UNIVERSITY

B.TECH IN COMPUTER ENGG.  
Expected 2023 | New Delhi  
Cum. GPA: 7.4/10  
(as of III semester)

### NEW MILLENNIUM SCHOOL

CBSE XII - SCIENCE  
2019 | Bahrain  
Percentage: 91%  
SCHOLAR'S BADGE

### INDIAN SCHOOL, BAHRAIN

CBSE X  
2017 | Bahrain  
Cum. GPA: 9.6/10

## AREAS OF INTERESTS

Software development enthusiast  
specializing in autonomous mobility,  
Web Development and robotics.  
Other hobbies and interests include  
cybersecurity and Artificial Intelligence.

## LINKS

GitHub:// [krush11](#)  
LinkedIn:// [krushnal](#)  
My Portfolio: [krushnal.me](#)

## SOCIETIES

### COGNITIVE MINDS

JOINT SECRETARY  
2020 - Present

- Participated in various debating competitions including IIT-BHU and IIT-Kanpur fests

## EXPERIENCE

### DEFIANZ RACING

SOFTWARE LEAD

Oct 2020 - Present | New Delhi

- Part of a team that aims to make the **1st autonomous F1 car** in India
- Built **pure pursuit** lateral controller and integrated it along with PID
- Responsible for integration of **SLAM** into **ROS framework**
- Designed and deployed the **official team website** using **NodeJS** and **MongoDB**
- Responsible for maintenance and addition of new features to the website

### DTU SELF-DRIVING CARS

SOFTWARE ARCHITECT

Dec 2019 - Sept 2020 | New Delhi

- Developed software suite of an autonomous vehicle for **IGVC'20**  
(*canceled due to COVID'19*)
- Integrated data from sensors into **ROS** with **NMEA 0183** compliance
- Build custom arduino scripts to extract data from rotary encoders

### CODING NINJAS

TEACHING ASSISTANT

Sept 2020 - Jan 2021 | Online

- Mentored a batch of 20 students in competitive coding
- Debugged codes and assignments in C++14 and higher

## TECHNICAL PROJECTS

### SIMPLIGIT

[npmjs.com/simpligit](https://npmjs.com/simpligit)

npm, git, JavaScript

- A **guided CLI** for **git** to aid new developers to use git.
- Achieved **over 200+ downloads** and users within a week
- Developed unit tests using **Jest**

### WALL FOLLOWING ROBOT

ROS, Linux, git

- Built a center wall following robot simulation using **roscpp** and **rospy**
- Designed the **URDF** and customized it by adding a lidar plugin into **Gazebo11**
- Developed a 4x1 multiplexer to integrate all nodes to control **ackermann drive**

### PROJECT LIGHTSPEED

NodeJS, HTML5/CSS3, MongoDB, git

- A secure lightweight and robust website to aid multi-national COVID-19 vaccine re-distribution
- Used **NodeJS** to build backend along with **MongoDB** for managing database
- Designed website using **MVC** design pattern for user interface
- Other packages used are **EJS** for renderign static files and **PassportJS** for user authentication

## OPEN SOURCE CONTRIBUTIONS

- OpenCV **openCV**: **PR # 19301**
- OpenCV **openCV**: **PR # 18590**
- Google **gnostic**: **PR # 226**
- Frappe **erpnext**: **PR # 23933**