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 Vishwakarma Institute of Technology  
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Branch : Instrumentation and Control Engineering

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Address (Current): Bibwewadi, Pune, Maharashtra

Address (Home-Town): Yashoda Nagar, Nagpur, Maharashtra

#### **Profile:**

Actively looking for opportunity to implement my skills for the betterment of company and to gain experience.

#### **Academic Details:**

Course	Institution/ Board	CPI/Percentage	Year of Passing
Third Year BTech (Instrumentation and Control Engineering)	Vishwakarma Institute of Technology, Pune	9.23	2017 and pursuing
HSC (Computer Science)	Yashoda Higher Secondary School, Nagpur	85.38%	2017
SSC	Yashoda Public School, Nagpur	92.00%	2015

#### **Technical Skills:**

- Programming Languages : C, Embedded C, C++, Java , Python
- Microcontrollers : AVR, ARM
- Operating System : Linux, Windows
- Software: MATLAB, Visual Studio Code, GitHub (Version Control), Proteus, Atmel Studio, EAGLE

#### **Internship:**

- **Manman India Project Internship on “Field Oriented Control (FOC) of BLDC” motor (On-going):**

**Duration: Semester Long (August 2020 – December 2020)**

- The aim of the project is to design, develop, manufacture and test application of FOC strategy on BLDC motor, which is to be used in medical application while meeting the requirements and safety standards.
- I am successfully designed the system for testing of FOC Strategy on BLDC motor under the mentorship of Industry mentors. The design integrated 32-bit MCU with power module along with external protection circuits as per safety standards.

- **The Robotics Forum Level-2 Workshop: (Duration: June 2018 – July 2018)**

- The aim of this workshop was to enhance the skills required for Robotics, specifically in electronics domain..

#### **Projects:**

- **Third Year Project (2019-2020) : Temperature Control System for Cryogenic Testing Chamber**

- A funded project from Indian Space Research Organization (ISRO) for testing the strength properties of metal at sub-zero temperatures.
- The project requirements were to automate the flow of liquid nitrogen into the testing chamber while constantly monitoring its temperature. As a part of team of 4 members, I got the opportunity to implement pneumatic flow control of liquid nitrogen and temperature control setup controlled by PID algorithm.

- **HackRx Virtual Hackathon: COVID-19 Augmented Reality Workout/ Informative Game**

- As the member of Team Neo, we developed a game that engages the users in workout helping them in staying fit and active. In this vision based game, the user has to complete certain workout tasks and game points to proceed into the story which gives them a sense of progress.
- My role was to implement the communication channel between the devices for the multiplayer feature.

- **Swerve Drive for “The Robotics Forum”**

- Swerve drive is a 4-wheel drive with wheel base configuration is built in such a way that it allows the robot move in all possible direction. The robot is a semi-automatic robot capable of communicating with Hand-held controller as

- well as performing certain tasks autonomously achieved with the help of appropriate system feedbacks and micro-controller pairs.
- My contribution was for lead the Electronics team for actuation and automation of the robot along with a team of 4.
  - **DD ROBOCON 2019 : Autonomous Quadruped Robot**
    - A quadruped robot working on rack and pinion mechanism, which allowed motion in XY plane, was successfully programmed and automated for DD ROBOCON 2019 held at IIT Delhi, India representing VIT Pune (Team B).
    - The robot was capable to complete all the tasks stated in the theme which included walking, turning, obstacle crossing and climbing slope. Various sensor like gyroscope, ultrasonic, potentiometer were fused together to achieve automation on robot aided with PID controlling algorithm.
    - Along with a team of 5 members, we experienced the journey of manufactured the system from scratch to using it in the competition at IIT Delhi.
  - **Second Year Project : E-nose and Sensor fault analysis**
    - As industrialization has been on its peak since last 10 years, monitoring the workspace for the presence of hazardous gases is essential. This project was targeted to monitor such workspaces where accidents can be fatal and can affect its surrounding environment and implement a system to alarm in case of potential accident.
    - My role was to implement the system which monitors the environment and is also an add-on system which is capable of detecting fault in the system that is being used in actual environment.

#### **Co-curricular Activities:**

- Technical Head and Captain of Team TRF, VIT Pune for **DD ROBOCON 2020**.
- Technical team member of “The Robotics Forum”, the largest technical club of VIT, Pune (since 2018).
- As member of “**Team Neo**”, secured **2<sup>nd</sup> position** in 24 hours Virtual Hackathon HackRx organized by HealthRx by Bajaj Finserv Health Ltd while competing with 32 other teams held in June 2020.
- Instructor at “The Robotics Forum Level 2 Workshop 2019” in July 2019 which has summer internship status
- Participated in **DD ROBOCON 2019**, held in national level at IIT Delhi on 16 June 2019, as Autonomous Robot operator while representing VIT Pune Team B. The team secured top ranks in the two stage evaluation and secured **All India Rank 16** among all the participating Teams
- Published a research paper on “*Effects of temperature on Vitamin C in Tomatoes*” in International Journal of Advance Research in Science and Engineering.

#### **Extra-curricular Activities:**

- Volunteered to teach government school children under Utkarsh, a literacy program for such children (2018-19)
- Actively volunteered in Antariksh club, the astronomy club of VIT, in conducting star parties and guest lectures (2017-18).

#### **Certification/ Badges:**

- Gold Star in C++ and JAVA on Hackerrank platform.
- Coursera Certification on “Object-Oriented Data Structures in C++ by University of Illinois at Urbana-Champaign”
- Coursera Certification on “Introduction to Programming with MATLAB by Vanderbilt University”
- Coursera. Certification on “How to Write and Publish a Scientific Paper by École Polytechnique”

#### **Interests and Hobbies:**

- Robotics
- Reading books

#### **Professional Skills:**

- ✓ Leadership skills
- ✓ Programming skills
- ✓ Good Communication skills