




Dhruval Vaidya

 dhruvalde.v29@gmail.com

 +49 176 85917274

 Stuttgart, Germany

 <https://www.linkedin.com/in/dhruval-vaitya>

WORK EXPERIENCE

Student Research Assistant

Fraunhofer IPA 

2024/04 – present
Stuttgart, Germany

- Commissioning multiple mobile robots and manipulators.
- Developing project specific applications for all kind of robots.
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Product Application Engineer

Aspire Designs

2021/03 – 2022/08
Anand, India

- Utilising my negotiation and critical thinking abilities I was able to provide engineering solutions as per the client's requirements on **Creo Parametrics** and **ANSYS Workbench**.
- Incorporating my excellent communication and problem solving capabilities assisted me to improve as an individual while meeting the project deadlines.

Internship


Aspire Designs

2020/04 – 2020/08
Anand, India

- **CAD** Engineer Intern responsible for preparing project documentation and providing assistance throughout the project lifecycle.
- Undertook **Quality Assurance** and Maintenance responsibilities, ensuring high standards of work.

EDUCATION


Master of Engineering- Mechatronics & Robotics

Hochschule Schmalkalden 

2022/10 – Current
Schmalkalden,
Germany

Currently pursuing master's study in Mechatronics and Robotics with the prominent score of 2.4/5 with undertaking subjects as **ROS, C/C++, MATLAB(Simulink)**, Automation & Control, Python, Communication Systems, Industry 4.0, , Embedded System.

Bachelors of Engineering- Automobile Engineering

A.D. Patel Institutes of Technology 

2017/06 – 2021/06

Successfully completed bachelor's degree with a noteworthy score of 8.7 out of 10. Including subjects like Mechanical engineering, Machine design, **CAD**, Manufacturing process, Vehicle Dynamics, **Automotive Systems** etc.

SKILLS

- | | | |
|---------------------|-------------------|------------------------|
| • Python | • C/C++ | • ROS2 |
| • MATLAB (Simulink) | • CAD/CAE | • Embedded Development |
| • Avid Learner | • MS Office Suite | |

LANGUAGES

German
intermediate

English
Fluent

Gujarati
Native

Hindi

PROJECTS

Mobile Robot Application

- Practiced **ROS2** for controlling and path planning of mobile robots.
- Implemented motion planning algorithms to optimize robot movements.
- Used **Simulink** for system-level design, simulation, and code validation.
- Learned basic concepts of **ADAS** and **Autonomous Driving**.

X-Y Pen plotter design using ESP32.

- Completed the 2- axis pen plotter system using ESP32 and components like Position sensor, motor driver etc.
- Developed a code to generate the specific designs using 3D Printing for X-Y Pen Plotter: Leveraged microcontroller programming skills contributing to the successful execution of the project
- Applied proficiency in C and C++ for ESP32 programming.

Chassis selection by AHP & TOPSIS methods

- As the aim of the project, an optimum bus chassis has to be selected from 5 different options available in the Indian market.
- I carried out the job of the data collection of these models from the consumers in the market and used Excel to formulate the framework to obtain the optimum choice with AHP and TOPSIS approach.
- As an outcome, we were able to figure out the most suitable option and also established a ranking for all the models enabling us to determine the methodology of choosing the optimum option based on the requirements.

CERTIFICATES

- ANSYS
- AutoCAD
- Creo Parametric
- MATLAB(Simulink)

PUBLICATIONS

Selection of bus chassis for large fleet operators in India: An AHP-TOPSIS approach

2021

Expert Systems with Applications