

# Vibhor Aggarwal

Master's Student, Automotive Engineering RWTH Aachen

24 February, 1996 (23 Years)

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Matlab, Simulink

6
CAD(Solidworks, Autodesk Inventor)

C.

FEA(Ansys, Abaqus)

1

Gazebo

3

ROS, YARP

3

Languages\* ————

(

Hindi

6

German

3.5

Italian

2

\*Scale 1:Beginner to 6:Proficient

Projects' Photos & Videos -



# Summary

Automotive engineer with experience in cutting edge research on robot and vehicle dynamics. Interested to work in the field of Automated Driving and Advanced Driver Assistance Systems.

#### Education

M.Sc, Automotive Engineering RWTH Aachen, Germany

B.Tech, Major: Mechanical Engineering

Minor: Applied Mathematics

Indian Institute of Technology Kanpur(IIT), India

#### Achievement and Awards

Best Under-Graduate project in Mechanical Engineering: IIT Kanpur 2017 Ranjan Kumar Memorial Award for best socially relevant project: IIT Kanpur 2017 Ranked 3rd in state and 914 among 1.4 million students: Joint Entrance Exam2013 Gold Medal in National Mathematics Olympiad: AISMTA 2013

# **Experience**

- · Sensor fusion for Navigation and path planning of an Unmanned Aerial Vehicle
- Creating a C++ framework using inter-process-communication via UDP

Research Fellow, C++ Gazebo Simulink YARP ♀ Italy Nov 2017-Aug 2018 Guide: Dr. Daniele Pucci, DIC lab Research center for Human-Robot Collaboration Italian Institute of Technology, Genova, Italy

- Implemented low level torque control framework for Humanoid robot, iCub
- Identified transfer function between Voltage and iCub's joints' torque

Graduate Engineer Trainee MS Excel TPM Hero Motocorp Ltd, Haridwar, India

**♥** India July 2017-Oct 2017 World's largest two-wheeler company

Sep 2018-Present

July 2013-June 2017

- Managed TPM for machine quality, process inspection and resource planning
- Produced machined parts by programming and setting up the CNC machine

Intern, Mechanical Design Engineer CAD FEA Grey Orange Robotics Pvt. Ltd, Gurugram, India

**Q** India May 2016-July 2016
Warehouse Automation firm

- · Designed suspension system of a material handling Automated Guided Vehicle
- Optimized assembly using Design for Manufacturing and Assembly techniques

# Projects

Object perception for Automated Driving C++ ROS Simulink Nov 2019-Present Institute for Automotive Engineering, RWTH Aachen, Germany

Design evaluation criteria for penalizing occlusions at urban intersections

Robotic Exoskeleton Arm CAD FEA Matlab

Aug 2016-April 2017

Guide: Dr. Sumit Basu, IIT Kanpur, India

Best Under graduate project at IIT Kanpur

• Exploited Pneumatic Air Muscles, based on Proportional pressure pneumatics

Off-road Vehicles CAD FEA Matlab

Dec 2013-Jan 2016

Guide: Dr. Avinash Kumar Agarwal, IIT Kanpur For Event similar to FSAE & Baja SAE

Created/optimised mathematical models for multi link suspension systems

# Additional Information

- Led the Motorsports team at IIT Kanpur, with more than 25 members. Eventually being the Best-technical ready team in the competition
- Interested in Abstract expressionism, Philosophy, Psychology, Hiking