# Vibhor Aggarwal


Master's Student, Automotive Engineering
RWTH Aachen

24 February, 1996 (23years)
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## Skills*

CAD(Solidworks, Autodesk Inventor)
6

C++,C
4

Matlab,Simulink
4

FEA(Ansys,Abaqus)
4

Gazebo
2

ROS,YARP
2

## Languages*

English
6

Hindi
6

German
3.5

Italian
1.5

*Scale 1:Beginner to 6:Proficient

## Projects' Photos-videos

## Summary


Automotive engineer with experience in cutting edge research on Human-robot collaboration and vehicle dynamics. Interested to work in the field of Automated driving or Modern vehicle systems, like Electronic stability control.


## Education

*M.Sc, Automotive Engineering* — Sep 2018-Present
RWTH Aachen, Germany

*B.Tech, Major: Mechanical Engineering* — July 2013-June 2017
*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 Exam 2013
Gold Medal in National Mathematics Olympiad: AISMTA 2013

## Experience

*Student research assistant* C++ Simulink — May 2019-Present
Institute of Automatic Control, RWTH Aachen, Germany

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

*Research Fellow,* Simulink YARP Gazebo C++ — 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 — July 2017-Oct 2017
Hero Motocorp Ltd, Haridwar, India — World's largest two-wheeler company

- 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 — May 2016-July 2016
Grey Orange Robotics Pvt. Ltd, Gurugram, India — Warehouse Automation firm

- Designed suspension of a bi-directionally scalable material handling robot
- Optimized assembly using Design for Manufacturing and Assembly techniques

## Projects

*Robotic Exoskeleton Arm* CAD Matlab FEA — 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
- Provided improved mobility to people in old age and Cerebral Palsy patients

*Off-road Vehicles* CAD Matlab FEA — 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
- Vehicle was among top 5 teams from more than 45 national teams

## Other 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 art, Neurology, Philosophy, Psychology