Vibhor Aggarwal Master's Student, Automotive Engineering at RWTH Aachen, Germany

vibhor.aggarwal@rwth-aachen.de (+49)176-598-96222Webpage:vibhoraggarwal.github.io/

Bayernallee 7 Aachen, Germany

SUMMARY	Automotive engineer with experience in cutting edge research on Human-robot col- laboration 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 RWTH Aachen, Germany	Sep, 2018 - Present	
	B.Tech, Major: Mechanical Engineering Minor: Applied Mathematics IIT Kanpur, India	July 2013 - June 2017	
ACHIEVEMENT AND AWARDS	Best Under-Graduate project in Mechanical Engineering at IIT Kanpur in 2017 Ranjan Kumar Memorial Award for the best socially relevant project at IIT Kanpur in 2017 Ranked 3rd in state and 914 among 1.4 million students in JEE 2013 Gold Medal in National Mathematics Olympiad conducted by AISMTA,2013		
EXPERIENCE	Student research assistant Institute of Automatic Control, RWTH Aachen	May 2019 - Present	
	 Sensor fusion for Navigation and path planning of an Unmanned Aerial Vehicle Creating a C++ framework using inter-process-communication via UDP 		
	Research Fellow, Dynamic Interaction Control Supervisor: Dr. Daniele Pucci, Italian Institute of Technology	Nov 2017 - Aug 2018 v, Genova, Italy	
	• Defining and identifying the transfer function between the voltage applied to the motors and the torque of each joint of the Humanoid robot, iCub		
	• Implement the low level torque control framework on the identified transfer function	he joints of iCub using	
	Graduate Engineer Trainee Hero Motocorp Ltd, Haridwar, India	July 2017 - Oct 2017	
	• Managed Total productive Maintenance for machinery equipment and qual- ity related activities and completing operations pertaining to maintenance re- pair involving resource planning and in-process inspection		
	• Produced machined parts by programming, setting up, and operating a computer numerical control (CNC) machine; maintaining quality and safety standards		
	Intern, Mechanical Design Engineer Grey Orange Robotics Pte. Ltd, Gurugram, India	May 2016 - July 2016	

- Designed suspension of a robot for bi- directionally scalable material handling
- Optimized the assembly through introduction of trailing link in the Suspension system, and reduced the number of parts

ACADEMIC PROJECT	Robotic Exoskeleton Arm Supervisor: Dr. Sumit Ba	asu, IIT Kanpur, India	Aug 2016 - April 2017	
	• Exoskeleton arm that increases mobility and is easily controlled by voice using an Android app, Bluetooth module and arduino.			
	• Actuated using Pneumatic Air Muscles (PAM) made of Latex ma as a woven shell and Polyethylene Terephthalate, used for loose wea on the principle of proportional pressure pneumatics			
	• Simulated the non-linear model on Ansys, and tested it experimentally			
	\bullet Helps people affected from ${\bf Cerebral \ Palsy}$ and old age arm weakness			
CO- SCHOLASTIC PROJECT	Design and fabrication of Supervisor: Dr. Avinash	two off-road vehicles Kumar Agarwal, IIT K	Dec 2013 - Jan 2016 anpur	
	• Calculated and optimized the Suspension parameters for the vehicle on "Lotus Suspension Simulation"			
	• Developed a Mathematical model on MATLAB for the vehicle's Suspension system to calculate forces			
	\bullet The project was awarded 4th position for its design among 44 national teams			
TECHNICAL SKILLS	MATLAB, Solidworks, Ansys, Autodesk Inventor, Lotus Suspension Analysis, Abaqus FEA, C language			
LANGUAGES	Native or Bilingual Limited working Elementary	English, Hindi German Italian		
RELEVANT COURSES	Mathematical Methods Solar Energy Technology Mechanics of Solids Theory of Mechanisms an Organizational and admin Design for Manufacturing	d machine histrative psychology and Assembly	Advance driver assistance system Design of Machine Elements Additive Manufacturing Finite Element Methods Mathematical Modelling Tribology	
POSITIONS HELD	Team Captain BAJA SAE, Motorsports	team of IIT Kanpur	April, 2015 - Jan, 2016	
	 Spearheaded a team of 25 members in design and fabrication of an All-tervehicle for Baja Student India 2016 Laid the groundwork for IITK Motorsports to acquire the recognition institute team from 2016 Contacted firms like Bosch, Fox suspensions, Wilwoods, Dassault System thereby raising sponsorship 			