

# KASHISH GOYAL

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## EDUCATION

### Northwestern University, Evanston, IL

Master of Science in Mechanical Engineering, Specializing in Robotics and Control

Anticipated Dec, 2018

### Thapar University, Punjab, India

Bachelor of Engineering in Mechanical Engineering, GPA: 8.83/10.00

Jun, 2015

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## SKILLS

- ROS (Robot Operating System), V-Rep, Mathematica, Simulink (MATLAB), Arduino IDE based on C++
- Python, C, Markdown, Git, HTML5/CSS, JavaScript
- PTC Pro- Engineer/ Creo Elements, DDS Solid Works, AutoCAD, KeyShot, CorelDraw
- Aero-Modelling

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## ACADEMIC PROJECTS

### Force Control of Sawyer, Northwestern University, IL

Jan, 2018 - Present

- Implementing 6 Axis Force/Torque sensor on Sawyer (Cobot developed by Rethink Robotics)
- Data acquisition through RS-485 serial
- Creating texture maps using force feedback which will help the robot understand its workspace

### Starbax, Northwestern University, IL

Nov, 2017 – Dec, 2017

- Created a ROS package to use Baxter arm for making coffee
- Used color and AR tags to detect the poses of cups and Keurig followed by calculating movement using inverse kinematics while satisfying constraints - all scripts written in Python

### Robotic Manipulation, Northwestern University, IL

Nov, 2017 – Dec, 2017

- Simulated manipulation of KUKA youBot along a given trajectory in V-Rep
- Implemented closed loop PI control to correct initial and odometry error

### Mecanum Wheel Application for Industrial Forklifts, Thapar University, India

Jan, 2015 – May, 2015

- Customized the design for industrial application (in SolidWorks) with in-house manufacturing of the entire vehicle
- Implemented worm drive to eliminate necessity of a braking system
- Won the Best Project Award, leading a team of five

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## WORK EXPERIENCE

### VE Commercial Vehicles Ltd. (A joint venture company between The Volvo group and Eicher Motors Ltd.)

#### Deputy Manager

Jun, 2015 – Mar, 2017

- Supported strategy development for enhancing Brand parameters such as Advocacy, Positioning and Perception, initiated
- Planned and conducted activities for improving market penetration through adding and sustaining corporate connections
- Supervised field demo trials and product validations for Heavy Duty Truck segment throughout various construction and mining sites in India

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## INTERNSHIP

### Eicher Tractors Ltd. (A subsidiary of TAFE Motors and Tractors Ltd.)

Jan, 2014 – Jun, 2014

Project 1: Reduction of Defects in Post-painting Area through Process Study and Improvements

- Won "Best Kaizen Award" for pioneering device for diesel fuel system priming which saved INR 6 Lacs annually
- Designed and implemented sling belt-based tackles for hood transport, that provided safe and quick operation
- Reduced defect in Parts per Million (PPM from 290000 to 160000 within a period of three months and Defects per Unit (DPU) (at final stage) reduced from 0.5 to 0.25
- Controlled excessive tube rejections in Tire Sub-Assembly Area through root cause analysis and implementation of relevant solution

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## ADDITIONAL DETAILS

### Leadership roles/Memberships

- Joint Secretary of Society of Mechanical Engineers at Thapar University, India 2014 – 2015
- Executive member of Robotics Society at Thapar University, India 2012 – 2013

### Extra-Curricular Activities

- Aero-modeler (designing, fabricating and flying model aircrafts)
- Intermediate guitar player, Badminton and Table Tennis enthusiast