RAJA MANAS MACHERLA

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Education:

Clemson University – International Center for Automotive Research — Aug 2019 – Present
Master of Science in Automotive Engineering — *GPA: 3.75*

Mahatma Gandhi Institute of Technology — Aug 2013 – June 2017
Bachelor of Technology in Mechanical Engineering

Core competencies:

Programming languages: Python, C++, MATLAB
Others: ROS, Git, Linux, Simulink, Ansys
Key areas: Motion Planning, Controls, Autonomous Vehicles, Robotics, Simulation, Deep Learning, Systems Integration

Work Experience:

Himatsingka America, Inc. — July 2017- September 2018, March-2019- August 2019
Supply chain/WM consultant

- Worked on compartmentalizing inventory using Pareto's principle. Analyzed sales and revenue data, worked on consolidating fast moving SKUs into one zone called the green zone. This resulted in reduction of picking time by 50% and increase in efficiency of the picker by 30%.
- Assisted the supply chain manager with order planning, goods movement in the SAP WM system.
- Managed a team of 4 for E-commerce order delivery. (Order value estimated- 4 million USD for the fiscal year 2017-18.)
- Analyzed, validated and provided billing and shipping reports for the top management periodically.

Academic projects:

Implementation of ACC and lane keeping on a F 1/10th car (AuE 8350)

- Developed PID controllers for both adaptive cruise control and lane keeping on Arduino.
- Sensed and stopped 30 cm before the obstacle successfully. The sensor used was an ultrasonic sensor.
- Maintained lane throughout the course and cleared all checkpoints.
- Calibrated the sensors to show correct time and distance data.

Designing a battery electric vehicle in MATLAB/Simulink (AuE 8810)

- System level requirements were satisfied and the car was developed through the integration of six sub-systems (BIW, packaging, vehicle dynamics, powertrain, human factors and systems integration).
- Ran several iterations on powertrain/ vehicle dynamics models developed in Simulink to satisfy requirements of each sub-system and to find out the best optimized solution.
- Automated the packaging process of battery, motor, gearbox and AM95 passenger based on the given volumes.

Designing a 2D plant in Seimens Plant Simulation software (AuE 8330)

- Designed a plant to manufacture bell-housing for the latest production model. Variability of the cycle times was considered as it was a mixed model assembly line. Takt times were determined based on the demand.
- Plant was optimized to reduce capital investment in terms of machine and floor space cost.
- Costing calculations were done to find out the overall manufacturing cost per part.