

RV-Mercedes-Benz Centre for Automotive Mechatronics Internship Modules for Engineering students

- M1. Energy analysis of EVs on different driving cycles
- M2. Autonomous park assist system
- M3. Electric motor performance analysis in EV for different driving cycles
- M4. Supplemental Restraint Systems
- M5. Optimal selection of components for EV powertrain from EV simulation
- M6. Keyless Entry system
- M7. Review of BMS technology for EV's
- M8. Adaptive Suspension system
- M9. Simulation of FOC based BLDC motor
- M10. Adaptive Brake Regulation (ABR)
- M11. Simulation of FOC based sensorless BLDC motor
- M12. Automatic Rain / Light Sensor system
- M13. Implementation of BLDC motor control in ALTAIR Embed software
- M14. Tire Pressure Monitoring System (TPMS)
- M15. Investigation of various PWM techniques for three phase Inverter in EV Power Train
- M16. Vehicle to Vehicle Communication
- M17. Investigation of various Power Quality issues due to integration of EV Chargers
- M18. Electronic Fuel System
- M19. Design of converters for fast charging of EV's
- M20. Exhaust Gas Recirculation System
- M21. CANoe simulation (SLL) to model different EV driving conditions
- M22. Climate Conditioning for Passenger Comfort
- M23. CANoe based HLL to model motor driving
- M24. Energy Management for ECO by the student starting from specifications
- M25. MHELL based CAN emulator to emulate CAN communications
- M26. Modeling EV drive train in MATLAB / SciLab for various driving modes
- M27. Modeling EV drive train in MATLAB / SciLab for different types of motors
- M28. Dynamic tuning of Inverter PWM as per driving feedback for optimal battery consumption
- M29. Braking condition prediction for avoiding back current from motor in an EV
- M30. Simulation and comparison of standard BMS algorithm for EV driving profiles
- M31. Development of Motor Control Algorithm
- M32. Computer Vision for Autonomous Vehicles
- M33. PYTHON for Mechanical, Aerospace and Industrial Management
- M34. Machine Learning for Mechanical, Aerospace and Industrial Management
- M35. Model Based design for Control system using SCILab / MATLAB
- M36. Model Based design for Automotive system using SCILab / MATLAB
- M37. Model Based design for Mechanical system using SCILab / MATLAB
- M38. Modeling of ADAS using SCILab / MATLAB
- M39. Modeling of Cruise control system SCILab / MATLAB
- M40. DSP for Power Engineering
- M41. PYTHON based simulations of Automotive Power Electronics
- M42. Machine Learning using PYTHON
- M43. Modeling of Suspension Systems



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Engineering®

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RV-Mercedes-Benz Centre for Automotive Mechatronics

Internship Modules for Engineering students

Week-1

Orientation on fundamentals of automotive Mechatronics
Hands on sessions – software skills

Week-2

Hands on sessions (hardware) Automotive aggregates

Week-3

Practical sessions on Automotive Systems with Mercedes and Ford Cars

Week-4

Discussions, report writing, digital poster and evaluation

Prerequisites: Fundamentals of mechatronics systems, sensors, actuators and associated hardware systems

For Further Information Contact:

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