ADAS

Duration - 5 Days / 40 Hours

Program Description

This program provides a comprehensive overview of self-driving cars, covering key components, technologies, and methodologies behind autonomous driving.

Participants will learn about the software development lifecycle for Advanced Driver Assistance Systems (ADAS) and Autonomous Vehicles (AV), as well as practical skills using the CARLA simulator. The curriculum includes sensor technologies, vehicle dynamics, localization techniques, object detection, and advanced features like adaptive cruise control.

Learning Goals

❖ Understand the fundamentals of self-driving cars and their components.
❖ Evaluate approaches to self-driving technology and safety implications.
❖ Navigate the software development lifecycle for ADAS/AV.
❖ Utilize the CARLA simulator for practical autonomous vehicle development.
❖ Apply sensor technologies and vehicle dynamics in autonomous navigation.
❖ Implement localization techniques and object detection algorithms.
❖ Conduct data acquisition and testing for autonomous systems.
❖ Explore advanced driving features like adaptive cruise control.

Course Topics

❖ Introduction to Self-Driving Cars
❖ Components of Autonomous Driving
❖ 3. Approaches to Self-Driving Technology
❖ Software Development Lifecycle for ADAS/AV
❖ System Setup and Coding Environment
❖ CARLA Simulator Overview
❖ Sensor Technologies
❖ Vehicle Dynamics and Control
❖ Localization Techniques
❖ Object Detection and Tracking
❖ Perception and Decision Making
❖ Autonomous Navigation
❖ Data Acquisition and Testing
❖ Advanced Driving Features (e.g., Adaptive Cruise Control)

Modules can be customized to suit client's specific needs and duration accordingly