

## Application and Registration

The filled-in registration form (Google Form) along with proof of payment (**photocopy of transaction page**) shall be submitted on or before **04<sup>th</sup> November 2022**. The registration fee shall be credited to the following account through any online transfer mode such as GooglePay, NEFT, etc.

**Account Name: Association of Mechatronics Engineers (AME)**

**Account Number: 984705705, Indian Bank**

**IFSC Code: IDIB000S181**

**Link to Registration Form:**

- Selection is on a first-come-first-served basis.
- The workshop is conducted via both physical and online modes. Physical seats are limited to 30 participants.
- Candidates are advised to use their PC with a stable internet connection.
- A google account is mandatory for practice.
- All participants will receive a certificate of participation
- The details of the registration fee are as follows:

Participant Category	Registration Fee
Participants from SRMIST	Rs. 500
Participants Outside of SRMIST (ONLINE ONLY)	

## Perception in Autonomous Driving

Autonomous vehicles have long lived in our imagination. Autonomous vehicles are cars (but also trucks, buses, and others) where human drivers are not required to take control to safely operate the vehicle, combining sensors and software to control, navigate, and drive the vehicle. This involves tasks such as driving assistance, braking management, obstacle detection system and road users, proximity alerts with other vehicles and driving adaptations, etc. A robust

perception is required multiple sensors to accomplish the tasks mentioned above.

## Workshop Contents

The workshop is intended for students, faculty members, and researchers who want to have insight into the sensory data perception used in Autonomous Driving Vehicles. **Basic skills (datatypes, functions object-oriented programming, NumPy module, etc) in python programming is desirable.** The workshop will provide hands-on training to the participants with python-based tools for processing sensory perception from sensors such as cameras, LIDAR, IMU, and GPS. Pre-acquired sensory data from real-world conditions from vehicle-mounted sensors which are part of autonomous driving datasets will be used for the practice sessions. The workshop comprises 40% theory and 60% hands-on practical content. The following are the major topics:

Day and Time	Topic
13-11-2022 Forenoon (8 AM to 10 AM)	Object Detection with Deep Learning Network Camera Modelling and Calibration
13-11-2022 Forenoon (10:15AM to 12:30PM)	Working with Calibration Matrices LIDAR Data processing Registering LIDAR Data in RGB Image Data
13-11-2022 Afternoon (01:30PM to 03:15PM)	Visual Odometry for Vehicle Localization (Camera Data)
13-11-2022 Afternoon (03:30PM to 5PM)	Processing GPS Data Processing IMU data Extended Kalman Filter Localization (GPS and IMU Data)

## Contact

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Registration Link:

<https://forms.gle/EsJoGLXU59tozmqP9>

## WORKSHOP

ON

## SENSORY PERCEPTION FOR AUTONOMOUS DRIVING VEHICLES

13<sup>th</sup> November 2022



**SRM**  
Institute of Science and Technology

Resource Person and Coordinator

**Dr. R. Senthilnathan**

Convenor

**Dr. G. Murali**

Organized by

Association of Mechatronics Engineers



Department of Mechatronics Engineering  
SRM Institute of Science and Technology  
Kattankulathur  
In Association with



SRM Innovation and  
Incubation Centre