



Report

Webinar

on

“Driver Behavior Modelling for Autonomous Vehicle”

Organised by

Department of Electrical & Electronics Engineering

Date: 07.03.2023

Organized in association with: IEEE and ISTE student chapters, MITS Madanapalle.

Submitted by: Dr. Gumpu Sreenivasulu, Assistant Professor, Dept. of EEE.

Attendance: 79 participants (Internal) and 10 Faculties

The programme is started at 02.30 PM to 04.30 PM with a welcome address to all the audience by the **Dr. A V Pavan Kumar**, H.O.D, EEE, MITS, Madanapalle. The resource person **Mr. Omveer Sharma, Research Associate, Indian Institute of Technology, Bhubaneswar**, was introduced by **Dr. Gumpu Sreenivasulu**, Assistant Professor, Dept. of EEE.

The resource person started the session by extending his hearty thanks to the participants, IEEE and ISTE coordinators, executive members, HoD, Principal and Management of MITS Madanapalle for giving him opportunity to share his knowledge and experience in “**Driver Behavior Modelling for Autonomous Vehicle**”.

The resource person highlighted the various types of modern machine learning and deep learning techniques. Also, he focused on the various challenges in the modelling of driver behavior of autonomous vehicle. Besides, the growth in market and opportunities in autonomous vehicles are being discussed during the session. The distinguished speaker discussed various techniques which are modelling of driver behavior of autonomous vehicle. Also, the basic architecture of these approaches are elaborated by Mr. Omveer Sharma. During the session, the major opportunities are being focused by the speaker. Besides, the prominent resource person pointed that there are huge number of opportunities for the engineering graduates in recent decades. Moreover, possibilities and innovations in this sector are being highlighted during the session.

The outcome of the webinar are students were made aware of how to clearly define problems, how to find an innovative solution of the problems and how to manage risk while trying to introduce new products to the markets. At the end, the prominent speaker underlined the career opportunities for graduates. Also, speaker assured to help the participants/students for any kind of research guidance.

The session was concluded followed by a vote of thanks, given by Dr. Gumpu Sreenivasulu, Assistant Professor, Department of EEE (IEEE and ISTE Coordinator) MITS, Madanapalle.

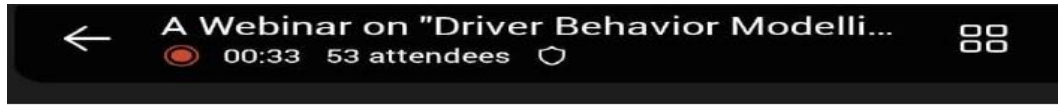


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Photos:



Search space planning

The search space planning finds the feasible space and suitable reorientation of space for vehicle state transition.

- Reduce both space and time complexity
- Introduce sub optimality by transformation of physical space into configuration space and more localized space

Fig. 2. Graphs used in search space planning: (a) Voronoi Diagram [7]; (b) Occupancy Grid [8]; (c) Cost Map [9]; (d) State Lattice [10]; and (e) Driving Corridor [11].



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Step 1 Step 2 Step 3 Step 4 Step 5

Rapidly exploring random trees (RRTs)

Omveer sharma

Indian Institute of Technology Bhuvanewar

Microsoft Teams

01/23/20

Selection of the Optimal Number of GMM-HMM Units for Multi GMM-HMM

Classification accuracy (on test data) for LCI & LCR behavior (%)

Number of Units	LCI Accuracy (%)	LCR Accuracy (%)
1	93.72	65.47
2	79.3	72.03
3	88	72.7
4	90.03	82.08
5	97	80.08

Fig. 15. Maximum and average accuracy for test data for LCI & LCR behavior by using single and multi GMM-HMM

Participants: 56

Participants list: HOD- EEE, GUMPU SREENI..., Omveer sharma, Ashritha, K, BHARGAVI KAGL..., Bhuvanewar Reddy, M

Signature of the Coordinator

Signature of HoD, EEE