BMS Institute of Technology and Management
e-Yantra Club
Sahayak Bot - ERYC 2020-2021

This is the challenge we pose in e-Yantra Robotics Competition (eYRC 2020-21) in a unique Theme titled Sahayak Bot. Here we unleash your imagination and discover your talent in programming an Autonomous Ground Vehicle (AGV) to make it capable of autonomously traversing an indoor environment to assist moving objects from one place to another. The scenario is that objects are being moved in e-Yantra's lab and we are short of manpower so Sahayak bot is used to help move the boxes from one place to another. The theme was divided into a number of tasks to build the Sahayak Bot in a step- by-step manner making the process easier and more interesting.

Challenges in this theme include:
1. 2D mapping and 3D mapping (SLAM)
2. Autonomous Navigation
3. Perception
4. Pick and Place.

Key highlights of our Team:
1. Interdisciplinary team from CSE and EEE.
2. Novel method for Perception Pipeline which outperformed all other teams both in terms of accuracy and computation time.
3. Used State of the Art Motion Planning and Path Planning techniques.
4. Used frameworks which are very relevant to Industries and can be easily transferred to a real robot.

After simulating the robot, we need to navigate it in the lab and move objects from their initial position to the goal location which is a box placed in different rooms as per the challenge. This theme helped us to explore novel methods in the field of mobile robotics and robotic manipulators.
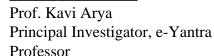
Certificate of Merit

This is to certify that Gaurav Sethia, a student of BMS Institute of Technology and Management , Karnataka has participated in the finals of **e-Yantra Robotics Competition (eYRC 2020-21)** held on **March 30th to April 3rd, 2021** online.

He/She is a member of the team having the following team members,

1. Siddharth Ghodasara
2. Vineet Ranjan
3. Gaurav Sethia
4. Harish Kumar S Guragol

This team has been selected as one of 7 finalists out of 465 teams in the Sahayak Bot theme and has been placed at 2nd position in this theme.

Prof. Kavi Arya
Principal Investigator, e-Yantra
Professor
Department of Computer Science and Engineering
Indian Institute of Technology Bombay

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e-Yantra is a project sponsored by MHRD, Government of India, under the National Mission on Education through ICT (NMEICT).

Certificate of Merit: awarded to finalist teams
Certificate of Completion: awarded to teams for completing all the tasks of the competition
Certificate of Participation: awarded to teams for partial completion of tasks in the competition
Letter of Participation: awarded as an acknowledgement of participation on e-Yantra Letterhead

Certificate of Merit

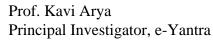This is to certify that Siddharth Ghodasara, a student of BMS Institute of Technology and Management , Karnataka has participated in the finals of **e-Yantra Robotics Competition (eYRC 2020-21)** held on **March 30th to April 3rd, 2021** online.

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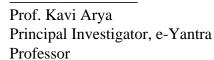
Certificate of Merit

This is to certify that Vineet Ranjan, a student of BMS Institute of Technology and Management , Karnataka has participated in the finals of **e-Yantra Robotics Competition (eYRC 2020-21)** held on **March 30th to April 3rd, 2021** online.

He/She is a member of the team having the following team members,

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2. Vineet Ranjan
3. Gaurav Sethia
4. Harish Kumar S Guragol

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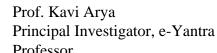
Certificate of Merit

This is to certify that Harish Kumar S Guragol, a student of BMS Institute of Technology and Management , Karnataka has participated in the finals of **e-Yantra Robotics Competition (eYRC 2020-21)** held on **March 30th to April 3rd, 2021** online.

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