

ERTS Lab

Department of Computer Science and Engineering

Indian Institute of Technology Bombay

Powai, Mumbai-400 076



e-Yantra

Engineering a better tomorrow

Certificate of Appreciation

This certificate is awarded to **Tshewang Dorji**, a student of **The Royal Academy, Bhutan** who has participated in the online e-Yantra School Robotics Competition (eYSRC 2020-21) conducted for a duration of 12 weeks from December 1st, 2020 to February 21st, 2021.

They are a member of the team (23 - *Druk Rovers*) with the following team members:

1. *Ugyen Jigme Rangdrel*
2. *Tshewang Dorji*
3. *Khamsum Wangchuk*
4. *Chodra Dorji*

This team has been selected as one of 16 finalists out of 71 teams in the **Intrepid Explorer** theme.

The team has acquired the following skill during the competition -

- Basics of Python programming and familiarity with the Webots robot simulator.
- An understanding of the basic kinematics of a differential drive robot (e-puck) using simple concepts from geometry and high school physics.
- An overview of sensors; obstacle avoidance using distance sensors.
- Closed loop controllers in wall-following and line-following scenarios.
- Finding color, shape and centroid of a contour using Image Processing concepts.

Prof. Kavi Arya

Principal Investigator, e-Yantra

Professor

Department of Computer Science and Engineering

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

e-Yantra School Robotics Competition (eYSRC 2020-21): Out of 61 teams: 6 teams received Merit, 10 teams Appreciation, 2 teams Completion and 17 teams Participation Certificates.

Certificate of Merit: awarded to the finalists with a category award in the competition

Certificate of Appreciation: awarded to the finalists in the competition

Certificate of Completion: teams for completing all tasks of the competition

Certificate of Participation: awarded to teams for partial completion of tasks in the competition