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Industrial Visit Organized by
Department of Computer Science
Engineering

Industrial Visit to Robert Bosch Center for Cyber Physical Systems, at IISc. Bangalore

An Industrial Visit to Robert Bosch Centre for Cyber Physical Systems, at IISc. Bangalore, was organized by Dr. S K Manju Bargavi (Associate Professor and Industrial Visit Coordinator) of the Department of Computer Science and Engineering. On receiving the letter of invitation from Dr. Bharadwaj Amrutur, Coordinator, IISc Bangalore, the 4th semester students from CSE enrolled into this program and embarked on the Industrial Visit on February 21, 2020.

67 students, accompanied by Dr. S K Manju Bargavi and Mrs. Tessy Rose R (Assistant Professor, Department of CSE) reached Robert Bosch Centre for Cyber Physical Systems, at IISc. Bangalore, at around 2.30 pm. They were received by the staff who guided them to the Makers Lab. Dr. Bharadwaj Amrutur, Coordinator, Robert Bosch Centre for Cyber Physical Systems at IISc., gave a brief about the organization and its functions.



Industrial visit to IISc Bangalore: (L to R) Dr.S.K. Manju bargavi, Assoc. Prof. Dept.of CSE and Mrs. Tessa Rose, Asst. Prof., Dept. of CSE along with 4th sem. CSE Students during the Industrial visit on 21st February 2020.

Mr. Shishir and his team received us at the Makers Laboratory and gave a brief session about the ARM Micro controller process in solar panel error detection from above twenty thousand panels. This project has various sensors to identify the process for each panel, and Embedded C is used to detect the activities of the solar panel.

A Human Machine Interface (HMI) concept is implemented in 3D Robot hand having servo control, flex sensor control, wireless control with Arduino receiver and transmitter, to make the movement of the hand. It accepts all the locomotive motions using sensor, and implements the operator's control instructions.



Industrial visit to IISc Bangalore: Walking Robot at Makery lab during the Industrial visit on 21st February 2020.

The personnel at the Centre demonstrated the working of a 3D printer, to create prototypes for various ongoing projects. They explained about the Walking Robot project and demonstrated the movements like front, back etc. - up to 25 movements were demonstrated. The Robot accepts a limited amount of resistance along its path. The humanoid development deals with integration of hardware and software.

Outcomes of the Industrial Visit:

The students got exposure in

- Automated robotics - quadruped bot
- Real time error detection in solar panel
- 3-D printer - maker bot replicator
- Humanoid hand
- Shape memory gripper

By the end of the visit, they got an idea about the Research areas at IISc. They also gained knowledge about the current trends in the Machine Learning and Robotics process, in various organizations.