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COLLEGE OF ENGINEERING
Anekal, Bengaluru

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DEPARTMENT OF SCIENCE AND HUMANITIES

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Report on **Applications of C in Robotics using Webots**

A four-day workshop on “**Applications of C in Robotics using Webots**” was successfully conducted from 25th February to 28th February for all First-Year Engineering students at Sri Sairam College of Engineering, in association with iRobo Automation Pvt Ltd, Mysuru and joint hands with Science Club and Robotics Club of Sri Sairam College of Engineering. The program commenced with a formal inaugural session where **Dr. Hari Krishna S, Head of the Department**, warmly welcomed the Chief Guest, **Mr. Bharath, Director, iRobo Automation Pvt Ltd, Mysuru** and highlighted the significance of industry-academia collaboration in equipping students with practical technical skills. In his address, Dr. Hari Krishna S emphasized the importance of robotics and programming knowledge for first-year engineering students to build a strong foundation for future innovations. Following the welcome address, Mr. Bharath introduced the objectives of the workshop, shared insights about current trends in robotics, automation, and embedded systems, and officially commenced the technical sessions.

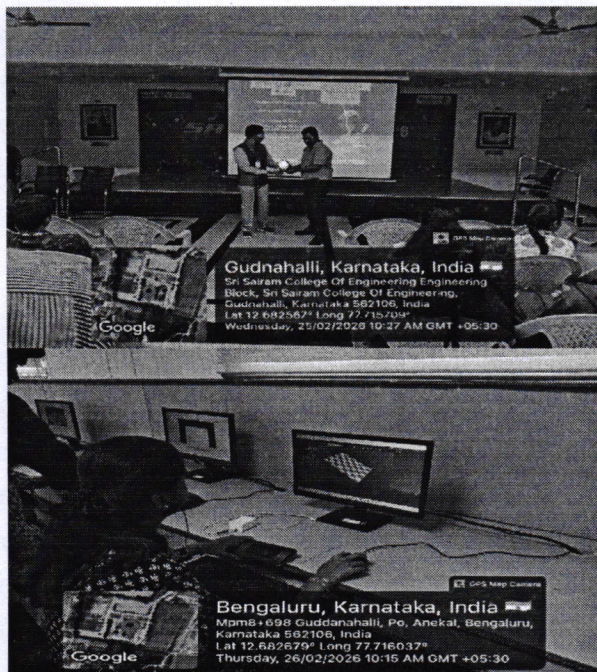
On the first day, students were introduced to the fundamentals of robotics, including types of robots, key components such as sensors, actuators, and controllers, and the role of C programming in controlling robotic systems within the Webots simulation platform; hands-on sessions enabled students to understand the Webots interface, create simulation environments, and write simple C programs to control robot movement. The second day students are assembled CSE lab and being engaged themselves practically and focused on sensors and actuators, where participants learned about distance sensors, infrared sensors, touch sensors, motor control techniques, and differential drive mechanisms, followed by practical exercises in programming robots to move along predefined paths and implement basic obstacle detection and avoidance using conditional statements and loops in C.

On the third day, advanced topics such as autonomous navigation, line-following and wall-following algorithms, multi-sensor integration, and an introductory concept of PID control were covered, with students working in teams to design intelligent robotic behaviours and debug their code effectively in the Webots environment. The fourth and final day was dedicated to mini-project development and evaluation, during which teams developed simulations such as autonomous obstacle avoidance robots, line-followers with obstacle detection, and simple maze-solving robots, and demonstrated their projects based on logic implementation, code efficiency, simulation accuracy, and teamwork. Throughout the workshop, expert trainers from

iRobo Automation Pvt Ltd provided continuous guidance, industry-oriented examples, and interactive learning experiences, making the sessions highly engaging and practical.

During the valedictory session, the best-performing students and teams were identified based on their technical knowledge, logical implementation, innovation, coding efficiency, and overall project presentation. The prizes were presented by Mr. Bharath, Director of iRobo Automation Pvt Ltd, who congratulated the winners for their outstanding performance and appreciated the enthusiastic participation of all the students. He encouraged the participants to continue enhancing their skills in robotics, automation, and programming to meet future industry demands.

The four-day workshop concluded successfully with a vote of thanks, expressing gratitude to the management of Sri Sairam College of Engineering, the resource persons from iRobo Automation Pvt Ltd, faculty coordinators, and all student participants for their active involvement and support. The workshop effectively achieved its objective of providing foundational knowledge and hands-on experience in robotics programming using C and Webots simulation. Overall, the program served as a valuable learning platform that bridged the gap between theoretical concepts and practical applications, inspiring students to explore advanced technologies in robotics and automation.



Anish/wz
Coordinator

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