# AJEENKYA D Y PATIL UNIVERSITY
## THE INNOVATION UNIVERSITY

# School of Engineering

IEEE Pune Section | IEEE INSTRUMENTATION & MEASUREMENT SOCIETY Pune Section | IEEE COMPUTER SOCIETY Pune Section | HunarPro skilling
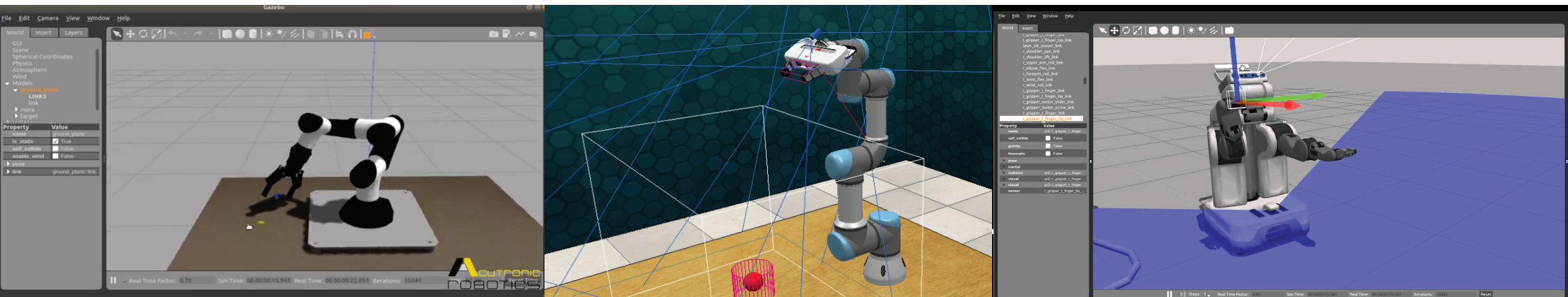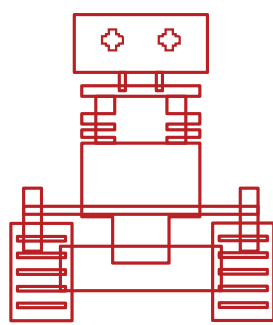
# Workshop on "ROS 2 SIMULATION"

## Mode of Conduction: Offline Hands-On Training (Certificate to all participants)



The Robot Operating System 2 (ROS 2) is the next-generation version of the popular open-source robotics middleware framework known as ROS (Robot Operating System). ROS 2 was developed to address some limitations of ROS 1 while maintaining and expanding on its core features. It is designed to be more capable, flexible, and suitable for a broader range of robotic applications. ROS 2 retains many of the concepts and philosophies of ROS 1 while addressing its limitations and incorporating modern software engineering practices. This makes it a valuable choice for robotics researchers, developers, and companies looking to build complex robotic systems. Depending on your specific project requirements, you may choose between ROS 1 and ROS 2. We welcome you to gain hands-on experience on cutting-edge technology like ROS-2 through this workshop. The details regarding the workshop are as follows:

**SCAN TO REGISTER:**



### Venue
**Centre of Excellence - Apple Lab,
4th Floor, ULC 2.0 Building**

### DAY-2:  2nd November 2023
**Time - 10:30 AM to 12:30 PM & 1:30 PM to 3:30 PM**

- Advanced ROS 2 Algorithms and Applications
- Simultaneous Localization and Mapping (SLAM) in ROS 2
- ROS 2 Navigation Stack
- Path Planning and Avoidance in ROS 2
- Manipulation and Perception in ROS 2
- ROS 2 Simulation Debugging and Troubleshooting
- Hands-On Simulation Exercise 2
- Q&A and Wrap-Up

### DAY-1:  1st November 2023
**Time - 10:30 AM to 12:30 PM & 1:30 PM to 3:30 PM**

- Introduction to ROS 2 and Basic Simulation
- Setting up ROS 2 and Gazebo
- ROS 2 Simulation Basics
- Hands-On Simulation Exercise 1
- ROS 2 Packages for Simulation