



# SKILLS

Learn. Build. Innovate

THE MOST PRACTICAL

# PHYSICAL AI WORKSHOP



## Workshop Duration & Location

Time: 6 Hours / Day (Total: 24 Hours)

Format: 4 Days + 1 Hackathon

At: XP Skills Works, HSR, Bengaluru

Day 5: Grand Hackathon

TRAIN • BUILD • INNOVATE • DOMINATE

# Workshop Overview

This workshop is designed to provide **hands-on exposure** to cutting-edge **Physical AI systems**, integrating software intelligence with robotic control. Participants will work with **real and simulated robots**, explore **multi-agent systems**, deploy **advanced AI models**, and build **intelligent autonomous behaviors** across a range of robotic use cases.

## Target Audience



Working professional seeking to upskill in AI, robotics, or automation



Final-year engineering students



Innovators and builders exploring real-world robotics + AI integration



Startup founders working on AI-first products

## Workshop Fee

₹24,999 per participant

### What's included

- ✓ Hardware access
- ✓ Simulations
- ✓ Certification
- ✓ Computer time

**Book Now**  
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## Modules of the Course

### A Hands-On Robotics Modules

#### 1. Hugging Face LeRobot

Learn to use LeRobot, an open-source framework by Hugging Face, for developing robot control logic using LLMs. Participants will build and test agentic loops that allow robots to respond to instructions, make decisions, and execute tasks using language models.

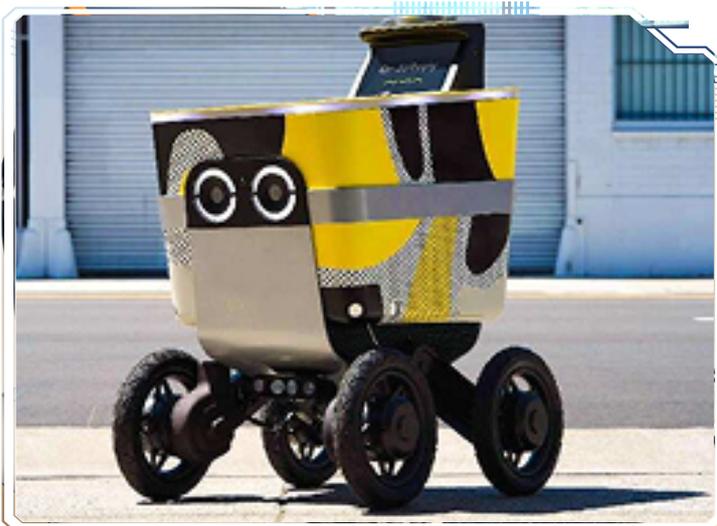
##### Key Skills:

- Prompt engineering for robotics
- LLM-based control pipelines
- Integration with Python robotics APIs



#### 2. Autonomous Vehicle (AV) Control & Simulation

Understand the core systems that drive autonomous navigation – from sensor fusion to control algorithms. Use simulated vehicles to develop object detection, path planning, and control strategies.



##### Key Skills:

- Perception & planning stack
- Lane keeping and obstacle avoidance
- Sim-to-real considerations for Avs

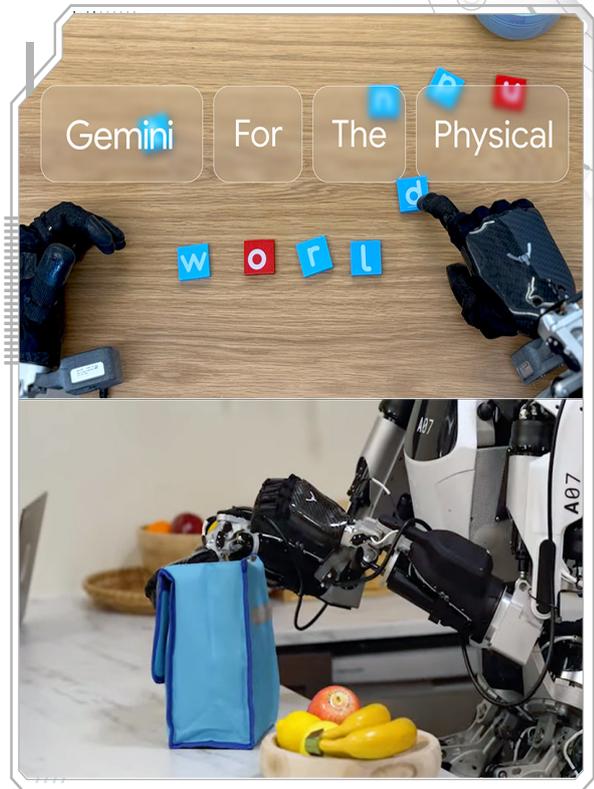


### 3. VLA Models from Gemini Robotics

Explore Vision-Language-Action (VLA) models inspired by Gemini Robotics. Train and evaluate models that take visual input, understand language-based instructions, and output physical actions in real-time simulations.

#### Key Skills:

- Visual grounding
- Language-conditioned policies
- Multi-modal action inference



## B Simulation Modules

### 4. Playing with NVIDIA Isaac Sim

Use NVIDIA Isaac Sim to create high-fidelity, physics-accurate robotic simulations. Develop environments to test manipulation, navigation, and sensing scenarios using ROS and Omniverse tools.

#### Key Skills:

- Isaac Sim + ROS integration
- Simulation environment setup
- Sensor simulation & debugging



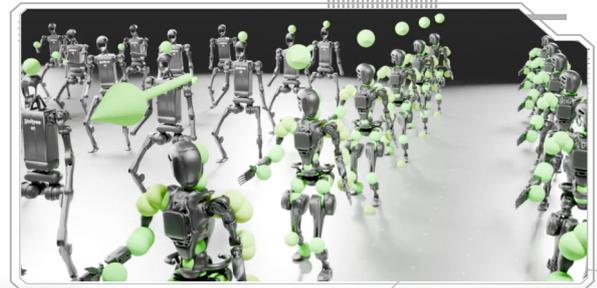
## 5. Isaac Lab for Agent Training

Dive into Isaac Lab, a reinforcement learning framework within the Isaac ecosystem. Train AI agents on robotic tasks like pick-and-place, locomotion, and policy optimization using curriculum-based learning.



### Key Skills:

- RL environments for robotics
- Reward shaping and curriculum setup
- Behavior cloning & PPO policies

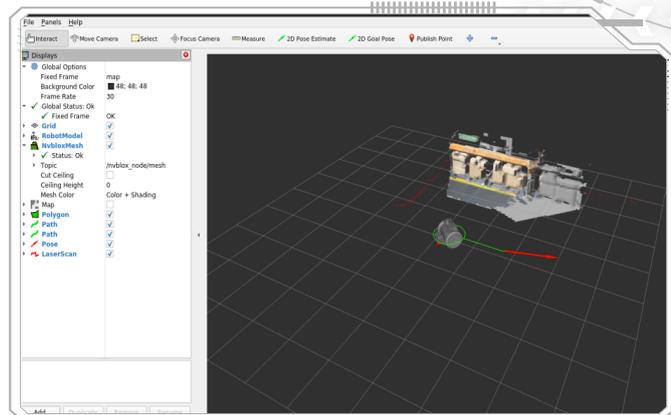
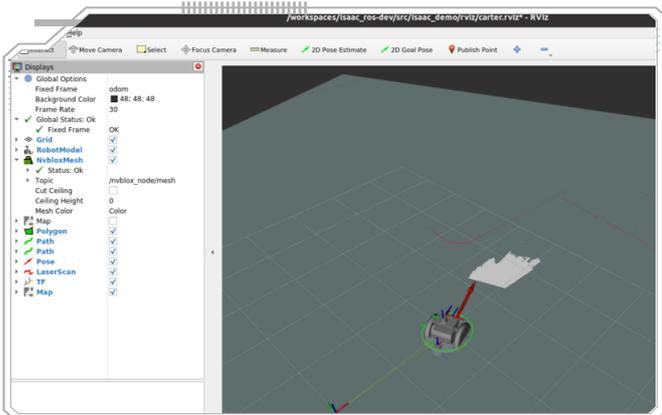


## 6. Hardware-in-the-Loop (HIL) Integration

Connect simulations with physical hardware to close the sim-to-real loop. Test policies trained in simulation directly on real robotic hardware with feedback systems.

### Key Skills:

- Control system interfacing
- Latency & real-time considerations
- Safety and fallback mechanisms



## 7. Simulating Humanoids in Isaac Sim

Learn to set up and simulate humanoid robots using Isaac Sim's advanced physics engine. Teach models to walk, balance, and perform human-like gestures.

### Key Skills:

- Multi-joint control
- Gait generation and stabilization
- Humanoid skeleton simulation



## 8. Robotic Dog Simulation in Isaac Sim

Description: Simulate quadruped robots like robotic dogs, tune their locomotion, and experiment with terrain adaptation and obstacle negotiation using Isaac's robust physics.

### Key Skills:

- Quadruped control algorithms
- Legged locomotion tuning
- Fall recovery and rough terrain navigation



## FAQs



### 1. Who is this workshop for?

This workshop is ideal for:

- Working professionals looking to upskill in Robotics, AI, or Control Systems
- Enthusiasts interested in combining software intelligence with physical robotic systems
- Final-year engineering students (especially from CS, ECE, Mechatronics, Robotics, or AI branches)



### 2. What are the prerequisites?

We recommend a basic understanding of:

- Python programming – helpful, but not mandatory (keen interest matters most)
- Robotics fundamentals – beneficial but not required
- AI/ML concepts – basic industry understanding will enhance learning

Pre-reading material will be provided to bring all participants up to speed before the workshop.



### 3. What is the duration of the workshop?

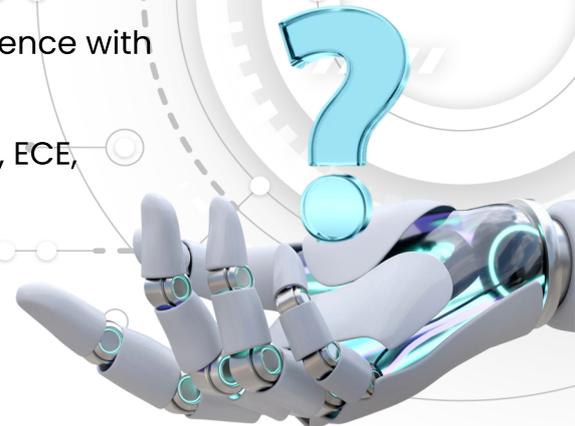
The workshop spans 4 days of intensive sessions + 1 day Hackathon, where participants apply learning through real-time challenges.



### 4. What's the fee for the workshop?

₹24,999 per participant, which includes:

- Full access to Robotic systems and platforms
- Full access to Robotic simulations
- Expert-led sessions and mentoring
- Certification upon successful completion



 5. Will I receive a certificate?

Yes. Participants receive a verified Certificate of Completion, highlighting participation and tools, platforms, and technologies used.

 6. Do I need a high-end PC or GPU?

No. This is an offline, in-person program. All compute resources and hardware are provided on-site.

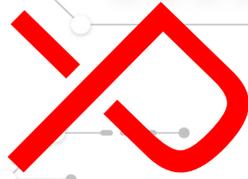
 7. Is this workshop hands-on or theoretical?

This workshop is highly hands-on. Participants will build, test, and deploy real and simulated robotic systems through guided projects.

 8. What tools and platforms will I learn?

You will gain practical experience with:

- Hugging Face LeRobot
- NVIDIA Isaac Sim & Isaac Lab
- Gemini VLA & LLM models
- ROS 2 and Python
- AMR (Autonomous Mobile Robot) platforms



# SKILLS

Learn. Build. Innovate

Join the most practical Physical AI  
Workshop and transform your robotics career

## Secure Your Spot Today

LIMITED SEATS AVAILABLE

### Batch Size & Format

**Only 10**

Participants / batch

**5 Days + 1**

Hackathon

**6 Hours**

Per Day

**BOOK YOUR SLOT NOW**

### Register & Contact



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