



Quanser Physical AI Lab

Physical AI Lab is a comprehensive research platform designed for Robotics, Applied AI, and Physical AI. The solution integrates the QArm Research manipulator, NVIDIA-based QBrain edge computing unit, Haptic Robot, force/torque sensing, and a rich collection of ready-to-use applications. With fully integrated hardware and software, researchers can rapidly move from algorithm development to validation on physical robotic systems using frameworks such as ROS 2, NVIDIA Isaac, MATLAB/Simulink, and P...

Parameter	Specification
Solution Type	Comprehensive research laboratory for Robotics, Applied AI, and Physical AI
Applications	Academic research, education, AI algorithm development, and Physical AI model validation
Main Manipulator	QArm Research (6 DOF)
Edge Computing Unit	NVIDIA-based QBrain
Simulation Environment	QLabs (Digital Twin)
Software	QUARC® Complete (Lab License)
Supported Frameworks	MATLAB®, Simulink®, ROS 2™, NVIDIA Isaac®, Python®, C++
Haptic Control	Haptic Robot
Teleoperation	Supported
Imitation Learning	Supported
Sensors	Force/Torque Transducer
Included Applications	End-to-end applications and examples for Robotics, Applied AI, and Physical AI
Digital Twin	Included
Hardware Validation	Validation of AI models on physical robotic hardware

Parameter	Specification
System Architecture	Open and reconfigurable architecture
Expandability	Modular platform with optional hardware extensions
Optional Add-ons	Ground Control Station (GCS), QBot Platform (including Digital Twin), Communication Router