

# Bolt G1

AI Humanoid Robot



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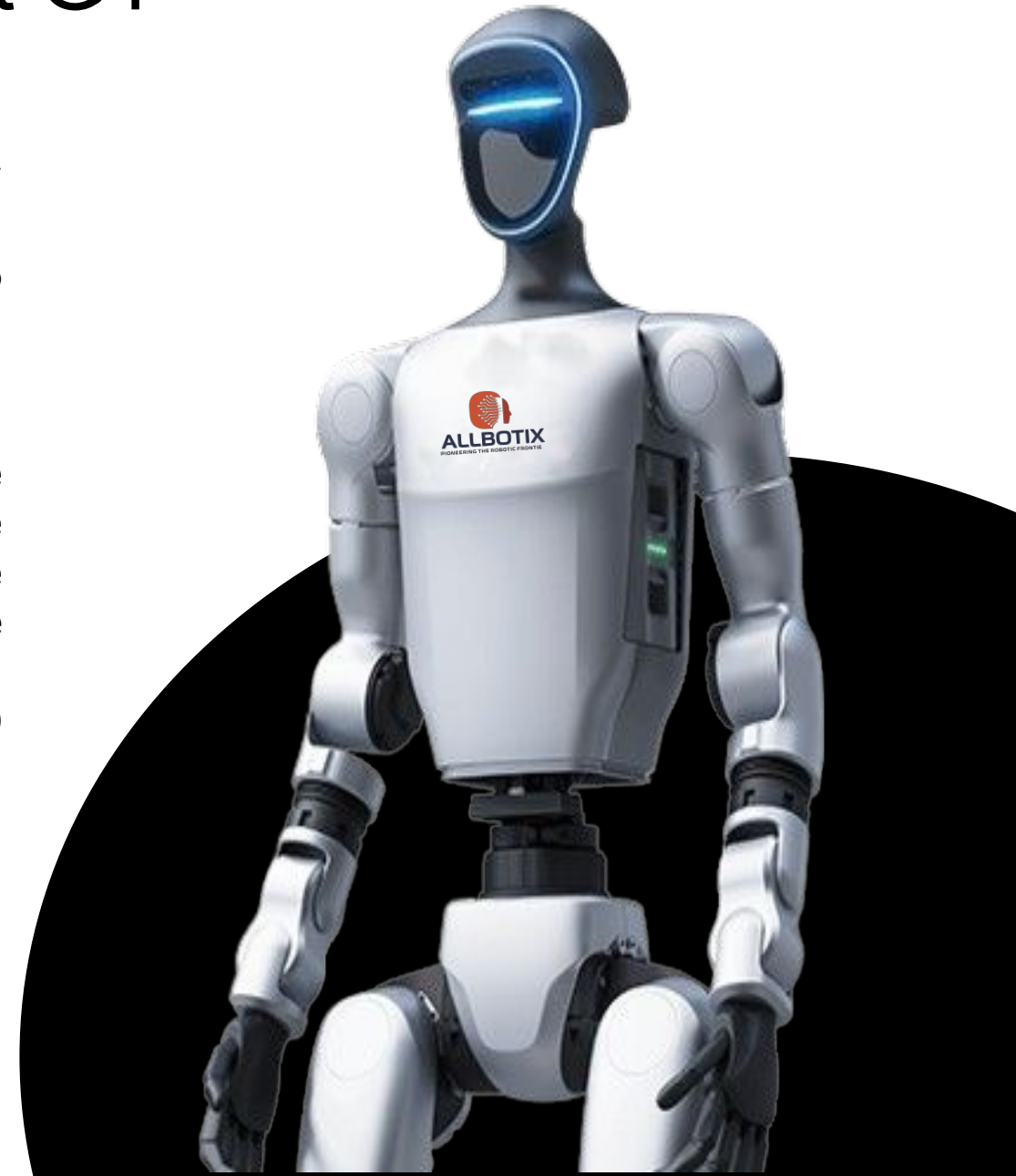
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Overview

# Allbotix Bolt G1

The Allbotix Bolt G1 is an advanced humanoid agent robot built for cutting-edge AI research, human-robot interaction, and intelligent automation. Standing 1.32 meters tall and weighing approximately 35 kg, the Bolt G1 features up to 43 degrees of freedom, including highly articulated limbs and an optional dexterous three-fingered hand for fine manipulation tasks. Powered by imitation and reinforcement learning algorithms, it enables complex behaviors like object handling, locomotion in dynamic environments, and adaptive task execution. With a robust mechanical structure, industrial-grade joint motors, and a high-performance computing core—expandable with NVIDIA Jetson Orin—the Bolt G1 supports OTA software updates, secondary development, and real-time sensor fusion via 3D LiDAR, depth cameras, and a multi-microphone array. Whether used for robotics education, AI experimentation, or service robotics prototyping, the Bolt G1 sets a new benchmark for flexibility, precision, and intelligence in humanoid robotics.



# Product Feature

AI-Powered Intelligence

Advanced Mobility & Dexterity

Over-the-Air (OTA) Software Updates

Human-Friendly Aesthetic

Multi-Modal Perception System

Built for Real-World Applications

## 3D LIDAR

LIVOX-MID360

## Microphone Array

Noise Cancellation, Echo Cancellation

## Single Arm Degrees of Freedom

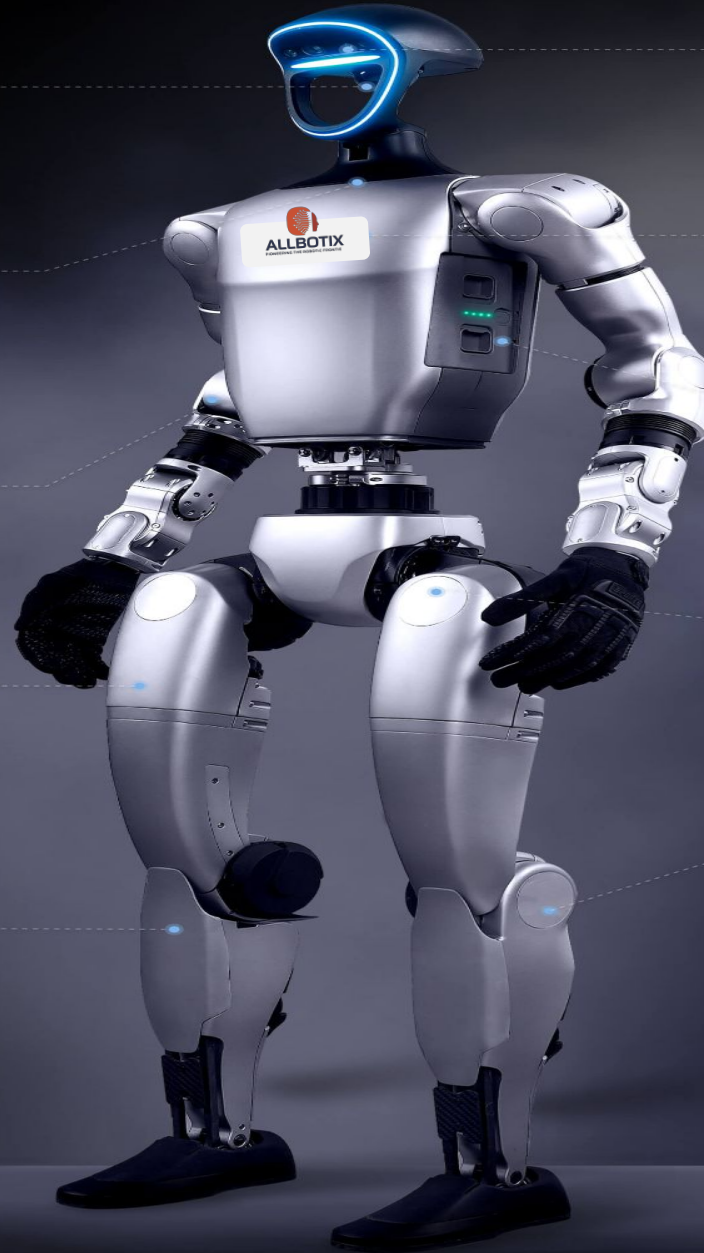
Shoulder 3+Elbow  
2+Wrist 2(optional)

## Core Motion Module

Maximum Torque at  
joints 120 N.m

## Mobility

Moving speed of 2m/s



## Depth Camera

Intel RealSense D435i

## Speaker

Stereo, 5W Power

## Extra large quick release battery

Provide lasting power

## Hollow joint wiring of the whole machine

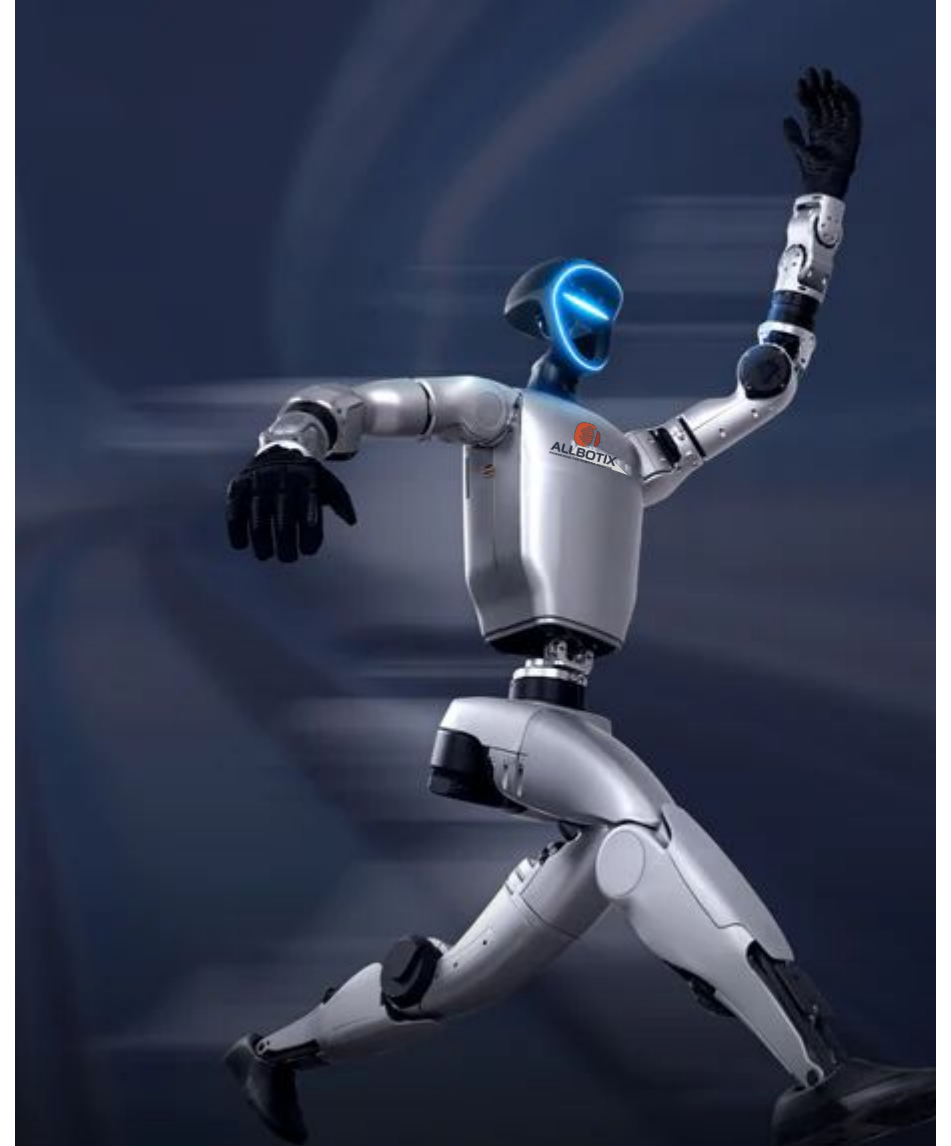
No external cables

## Single leg degrees of freedom

Hip 3 + Knee 1 + Ankle 2

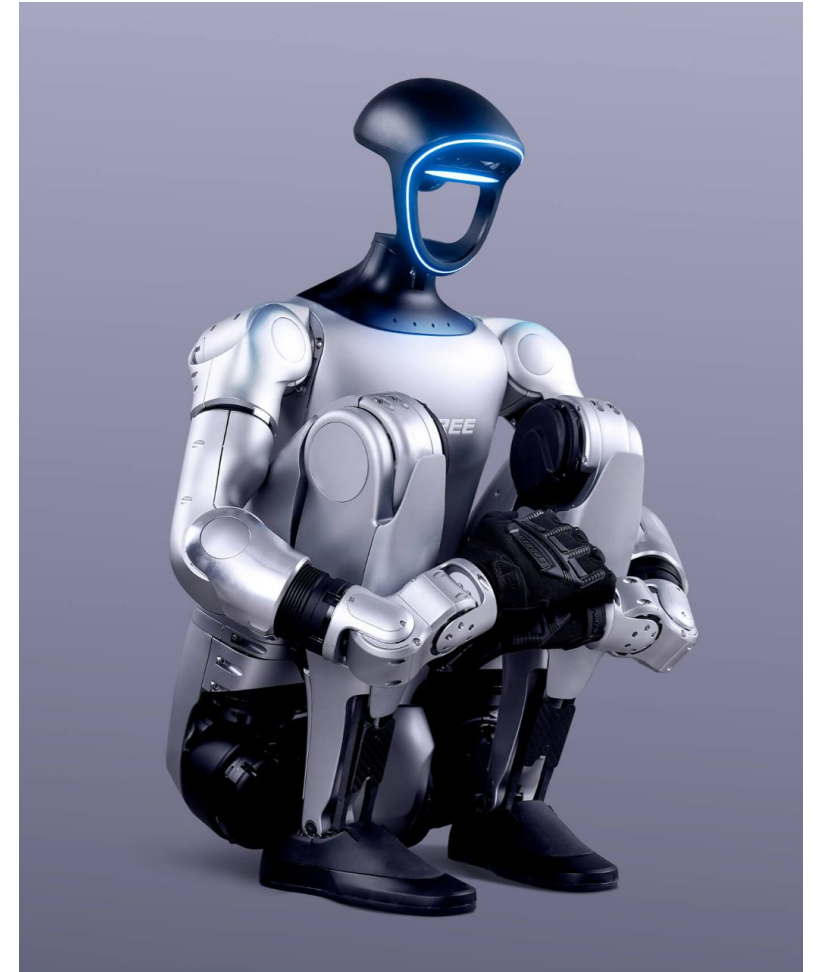
# Accessory Highlights

- **Dex5-1 Five-Fingered Dexterous Hand Module**
  - Highly articulated five-fingered robotic hand with multiple active degrees of freedom, designed to mimic human hand movements for advanced manipulation and precise object handling.
- **Tactile Sensor Array (Optional for Dex3-1)**
  - High-resolution fingertip sensors deliver nuanced touch sensitivity, enabling force-aware gripping and responsive interaction with delicate objects.
- **Quick-Swap Smart Battery System**
  - 9000mAh lithium battery with hot-swap capability ensures minimal downtime during extended missions or development cycles.
- **NVIDIA Jetson Orin AI Module**
  - High-performance edge computing unit designed for real-time processing of 3D perception, multi-sensor fusion, and AI-driven decision-making.



# Accessory Highlights

- **Modular Wrist & Waist DOF Extensions**
  - Expandable modules add up to 3 degrees of freedom to the waist and wrist, enhancing flexibility for complex movement and fine motor control.
- **Manual Controller Unit**
  - Ergonomic handheld remote with real-time feedback for manual operation, testing, and live demonstrations without needing a full software setup.
- **Protective Hard Transport Case**
  - Durable, impact-resistant case custom-fitted for Bolt G1 and accessories, ideal for safe transportation and field deployments.
- **Developer Toolkit (G1 EDU Only)**
  - Includes SDK, API access, simulation tools, and full documentation for secondary development, ROS integration, and AI behavior customization.



# Product Specification

Dimension of standing	≈ 1320mm × 450mm × 200mm
Dimension of (Folded)	≈ 690mm × 450mm × 300mm
Robot Weight	≈ 35kg (with battery)
Battery Performance	Battery capacity: 9000mAh (13-string lithium battery), voltage 54V Battery life: Approximately 2 hours (depends on usage and load)
Endurance Ability	Continuous operation: ~2 hours Quick-swap battery system enables extended operation with minimal downtime
Degrees of Freedom (DOF)	Total: 23 – 43 (depending on variant and optional accessories) Leg: 6 per leg Waist: 1 (expandable with optional 2 extra DOF) Arm: 5 per arm Hand: 15+ (Five-fingered dexterous hand with multiple DOF)
Running Speed	up to around 1.5 – 2.0 m/s for stable walking/running
Climb Angle	Around 20° – 30°
Sensing Sensor	3D LiDAR ×1 + Depth camera ×1 + 4-microphone array + 5W speaker



# Reference Videos

[Click here to see the  
videos](#)

# Support Services

## Installation Training

Rich and diverse training methods and materials

## After Sales Service

IOT (The Internet of things) solves more than 90% of technical problems

# About Us

- **Allbotix is a cutting-edge robotics company that specializes in designing and developing innovation robotics solutions for various industries shaping**
- **The future by improving the capabilities of services robots our robots are designed to assist humans in solving issues , to be uses in human environments and to eventually becomes our partners**
- **Allbotix is a dynamic and inventive robotics business dedicated to changing the world of artificial intelligence**





[www.nantatech.com/robotics/](http://www.nantatech.com/robotics/)

## CONNECT WITH US

Email

[allbotix.sales@nantatech.com](mailto:allbotix.sales@nantatech.com)

Call us

+91 – 9909041685

Address

703, Skywalk building, near Ganesh glory 11, Jagatpur,

Ahmedabad, Gujarat 382470



THANK YOU