GATEIN TECHNOLOGY
جيت ان تكنولوجي

PRODUCT PRESENTATION · UNITREE ROBOTICS

Unitree G1

Humanoid Agent AI Avatar



Start the Agent New Era

35 kg
WEIGHT (ABOUT)

127 cm
HEIGHT (ABOUT)

≤43
TOTAL DEGREES OF FREEDOM

120 N.m
MAX JOINT TORQUE

2 m/s
MOVING SPEED

2 h
BATTERY LIFE (ABOUT)



Flexibility Beyond Ordinary People

Extra large joint movement angle space, 23~43 joint motors.

±155°
WAIST Z-AXIS JOINT

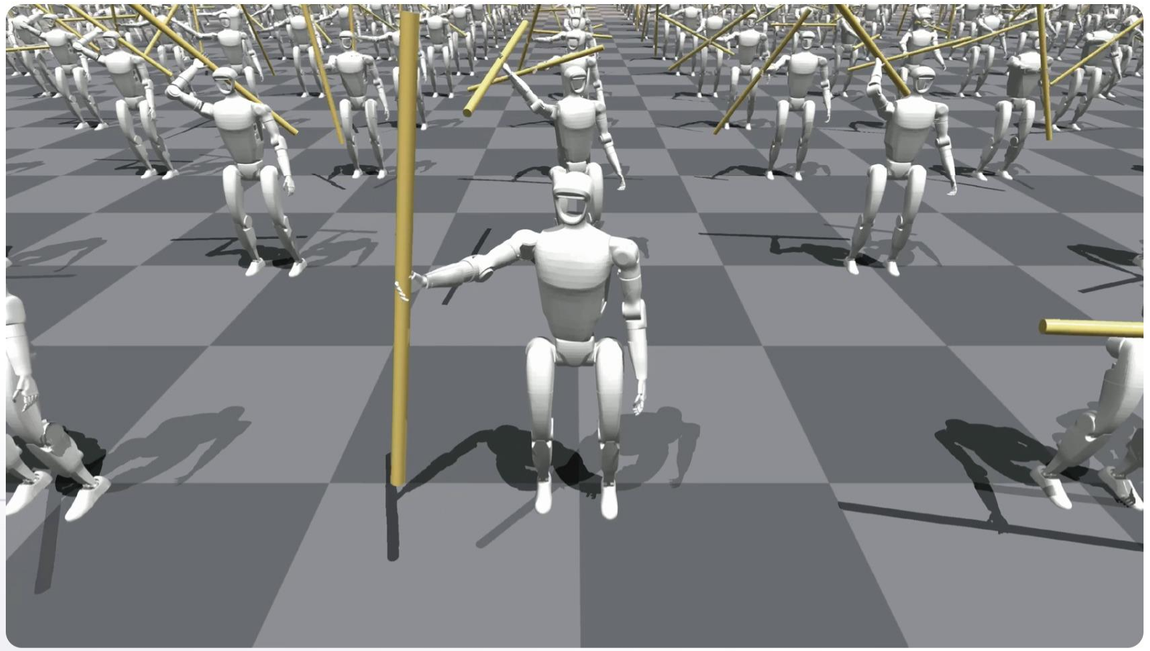
0~165°
KNEE JOINT

HIP JOINT
P ±154° R −30~+170° Y ±158°



Imitation & Reinforcement Learning Driven

Robotics technology accelerated by AI is upgrading and evolving every day.



SIMULATION



REAL WORLD

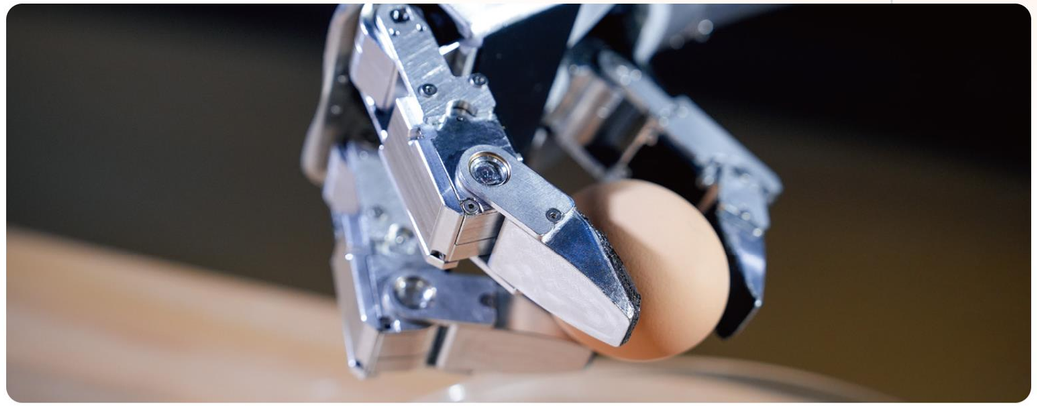
Force Control Dexterous Hand, Manipulation of All Things

Combined with force-position hybrid control, it is sensitive and reliable, and can simulate human hands to achieve precise operation of objects.

DEX3-1 · ACTIVE DEGREES OF FREEDOM

3	2	2
THUMB	INDEX FINGER	MIDDLE FINGER

Dex3-1 can optionally be installed with tactile sensor arrays.





G1 · INTELLIGENCE

Robot World Model,
Let’s Create It Together

UnifoLM

UnifoLM (Unitree Robot Unified Large Model), create a new era of intelligence together.

Open for everyone to co-create and use in the future.



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Perception & Power

01 360° Detection Perception

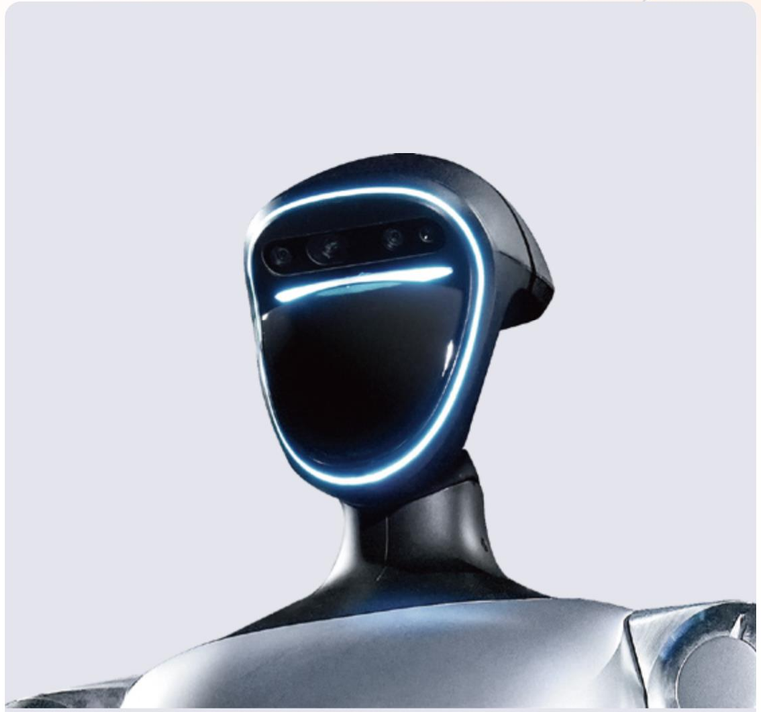
3D LIDAR + Depth Camera

02 Battery Life · About 2 h

Extra large quick release battery provides lasting power.

03 Dex3-1 Force Control Dexterous Hand

3-finger force control dexterous hand (optional installation of tactile sensor arrays).



Unitree G1 Parameter

Depth Camera
Intel RealSense D435

3D LIDAR
LIVOX-MID360

Single Arm Degrees of Freedom
Shoulder 3 + Elbow 2 + Wrist 2 (optional)

Hollow Joint Wiring
Whole machine, no external cables



Core Motion Module
Max torque at joints 120 N.m

Mobility
Moving speed of 2 m/s

Single Leg Degrees of Freedom
Hip 3 + Knee 1 + Ankle 2

Extra Large Quick Release Battery
Provide lasting power

Body & Degrees of Freedom

MODEL	G1	G1 EDU
Size (Stand)	1270mm × 450mm × 200mm	1270mm × 450mm × 200mm
Size (Fold)	690mm × 450mm × 300mm	690mm × 450mm × 300mm
Weight (With Battery)	About 35kg	About 35kg+
Total Degrees of Freedom (Joint Freedom)	23	23~43
Single Leg Degrees of Freedom	6	6
Waist Degrees of Freedom	1	1 + (Optional 2 additional waist degrees of freedom)
Single Arm Degrees of Freedom	5	5
Single Hand Degrees of Freedom	/	7 (Optional force control of three-fingered hand) + 2 (Optional 2 additional wrist degrees of freedom)

Motion & Mechanics

MODEL	G1	G1 EDU
Max Torque of Knee Joint [1]	90N.m	120N.m
Arm Max Load [2]	About 2kg	About 3kg
Calf + Thigh Length	0.6M	0.6M
Arm Span	About 0.45M	About 0.45M
Extra Large Joint Movement Space	Waist z-axis joint: ±155° Knee joint: 0~165° Hip joint: P±154°, R-30~+170°, Y±158°	Waist z-axis joint: ±155° Knee joint: 0~165° Hip joint: P±154°, R-30~+170°, Y±158°
Full Joint Hollow Electrical Routing	Yes	Yes
Joint Encoder	Dual Encoder	Dual Encoder
Cooling System	Local Air Cooling	Local Air Cooling

Power, Computing & Service

MODEL	G1	G1 EDU
Power Supply	13 String Lithium Battery	13 String Lithium Battery
Smart Battery (Quick Release)	9000mAh	9000mAh
Charger	54V 5A	54V 5A
Battery Life	About 2h	About 2h
Basic Computing Power	8-Core High-Performance CPU	8-Core High-Performance CPU
High Computing Power Module	/	NVIDIA Jetson Orin (optional)
Sensing Sensor	Depth Camera + 3D LiDAR	Depth Camera + 3D LiDAR
WiFi 6, Bluetooth 5.2	Yes	Yes
Manual Controller	Yes	Yes
Upgraded Intelligent OTA	Yes	Yes
Secondary Development [3]	/	Yes
Warranty Period [4]	8 months	1 year

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