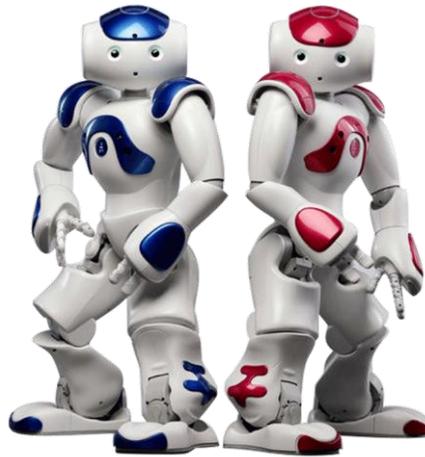


CAU Mountain&Sea

Small Size Team Specification

Bei Liu, Dian Qiu, Yuzu Jiang, Pengyu Jiao, and Biao Hu
China Agricultural University
hubiao@cau.edu.cn



Technical Specifications (NAO V6)

- **Height:** Approx. 58 cm
- **Weight:** Approx. 5.48 kg
- **Total Degrees of Freedom:** 25
- **Leg Degrees of Freedom:** 5 (per leg) + 1 (shared pelvis)
- **Arm Degrees of Freedom:** 5 (per arm) + 1 (hand)
- **Head Degrees of Freedom:** 2
- **Hip Joint:** P $-88^{\circ} \sim 27.7^{\circ}$, R $-21.7^{\circ} \sim 45.3^{\circ}$, Y $-65.6^{\circ} \sim 42.4^{\circ}$
(Shared Yaw-Pitch)
 - *(Note: P=Pitch, R=Roll, Y=Yaw)*
- **Knee Joint:** $-5.3^{\circ} \sim 121^{\circ}$
- **Ankle Joint:** P $-68^{\circ} \sim 52.8^{\circ}$, R $-22.8^{\circ} \sim 44^{\circ}$
- **Max. Peak Torque:** (Not specified for this class; utilizes coreless DC motors)
- **Joint Encoder:** 36 Magnetic Rotary Encoders (Hall Effect)
- **CPU/GPU:** Intel Atom E3845 (1.91 GHz, 4 cores) with Integrated Graphics
- **Camera:** 2x 5MP Video Cameras (OV5640)
- **IMU:** 2 Gyrometers, 1 Accelerometer (Inertial Unit)

- **Voice Module:** 4-Microphone Array + 2 Speakers
- **Battery:** 2.9 Ah (62.5 Wh)
- **Battery Life:** 60 - 90 min (Active use)
- **Wi-Fi:** Supports IEEE 802.11 a/b/g/n
- **Bluetooth:** 4.0 LE
- **Buttons:** Power Button ×1, Tactile Sensors (Head ×3, Hands ×3)
- **Expansion Port:** Ethernet (RJ45)