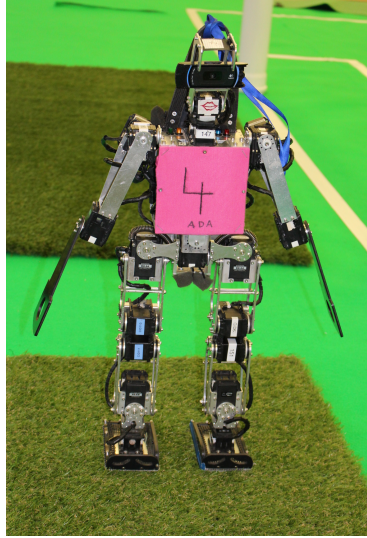
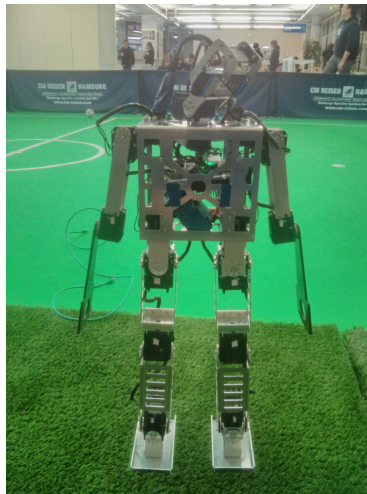


Berlin United - FHumanoids Robot Specification Sheet 2016



Names	Konrad, Grace, Alan, Ada, John and Emmy
Height	65cm
Weight	4400g
DoF	20 total (5 per leg, 2 in the hip, 3 per arm, 2 in the head)
Type of motors	10 Dynamixel RX-64 10 Dynamixel RX-28
Computing unit(s)	Central unit is an ODROID-X2 board with <ul style="list-style-type: none">• Exynos4412 Prime Quadcore ARM Cortex-A9 at 1.7 GHz• 2 GB RAM• 8 GB eMMC• 93 x 95mm Sensor and actuator communication unit with <ul style="list-style-type: none">• two ARM Cortex M4 @ 168 MHz• 196 KiB RAM• 1 MiB flash• 60 x 40mm
Camera	Logitech HD Pro Webcam C910 at 960x720
Additional Sensors	9 DOF IMU Servo motor position feedback



Names	Random Rectifier, Curious Capacitor
Height	73cm
Weight	4500g
DoF	20 total (6 per leg, 3 per arm, 2 in the head)
Type of motors	4 Dynamixel RX-106 8 Dynamixel RX-64 8 Dynamixel RX-28
Computing unit(s)	Central units are two ODROID-XU4 boards each with <ul style="list-style-type: none"> • SAMSUNG Exynos 5422, Cortex-A15 & Cortex-A7 big.LITTLE, Octa core at 2GHz • 2 GB RAM • 64 GB eMMC • 82 x 58mm
	Sensor and actuator communication unit with <ul style="list-style-type: none"> • two ARM Cortex M4 @ 168 MHz • 196 KiB RAM • 1 MiB flash • 60 x 40mm
Camera	IDS UI-3251LE-C-HQ global shutter USB3.0 camera with 1600x1200 pixels
Additional Sensors	9 DOF IMU in torso 6 DOF IMU in head (no magnetometer) Servo motor position feedback