

1 Robot Specification

Figure.1 is our **prototype** robot design. We **plan to upgrade** the hardware lighter and more robust. You can find more detail from the spec.

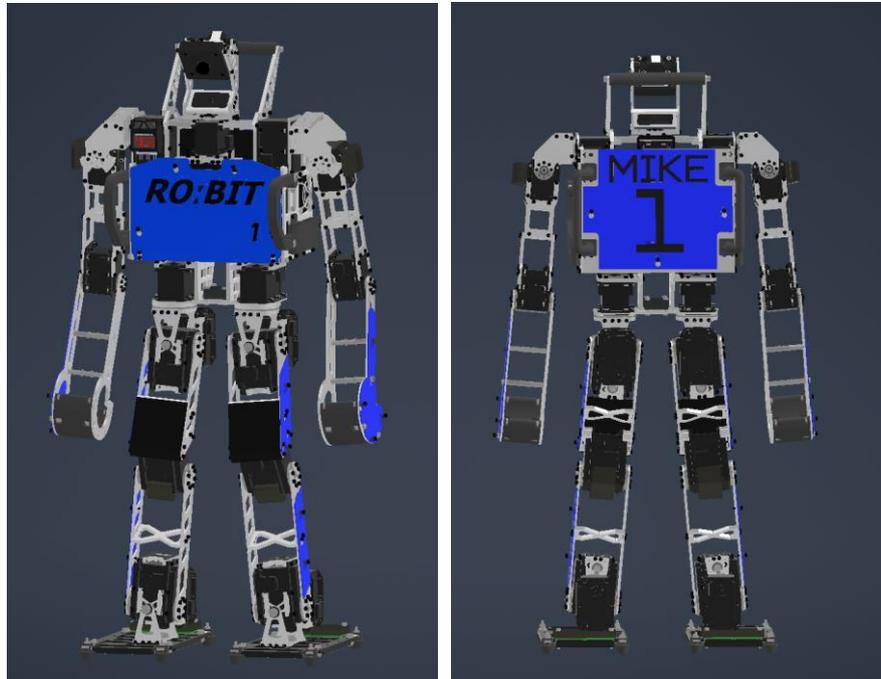


Figure.1 Unfinished Robot

ROBOT NAME	Chul Su OP.5	
SIZE	Weight Height	6.2 kg 660 mm
Walking speed	30 cm/s	
Actuators	ROBOTIS Dynamixel MX series (MX-28, MX-64, and MX-106)	
Number of degrees of freedom and type of motors on each kinematic chain of the robot	All DOF	19 DOF
	HEAD	1 DOF (All 28)
	LEG	12 DOF (Pitch: 106, others: 64)
	ARM	6 DOF (Shoulder: 64, others: 28)
Computing units	NUC10i5FNK (Intel i5-10210U Quad Core 1.6~4.2 GHz), 8GB DDR4 RAM and 240GB of SSD ARM Cortex M4 STM32F446RE MCU 180MHz ARM Cortex M4 STM32F303K8 MCU 72MHz	
Camera	oCam-1CGN-U	
Sensors	EBIMU-9DOFV5-R2 (Not using earth magnetic sensors) TAL230-50kg strain gauge	
Battery	Li-Po 6Cell 4200mAh	
OS/Development Platform	Linux Ubuntu 22.04/C,C++/ROS2	

Table 1 Specification of the Robot