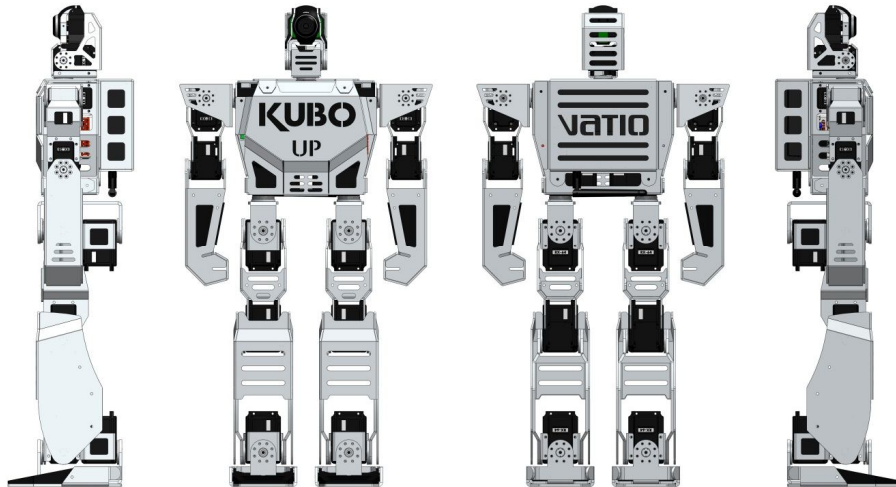


Team VATIO-UP One-Page specifications

RoboCup 2015 - Hefei, China. Humanoid League, Kid Size

1.- Robot picture.



2.- Robot Name.

The team consists of three robots with the same structure and components: **KUBO, AXIS and ROOT.**

3.- Number of degrees of freedom: **20 DOF**

4.- Height, weight and walking speed: **56 cm, 5 kg, 0.32 m/s**

5.- Type of motors and controller.

Dynamixel – **8 RX28** (arms and head) and **12 RX64** (legs). The controller is a custom made embedded system with a microcontroller ATXMEGA128 and other components for communication with sensors and the main computing unit, and the power management components. This module is connected to the 2x 46 pin headers for GPIO's ports in the BeagleBone Black board.

6.- Computing unit.

The **BeagleBone Black** board have an AM335x 1GHz ARM® Cortex-A8, 512MB DDR3 RAM, 4GB 8-bit eMMC on-board flash storage, and using Linux Debian 7.4 as OS.

<http://beagleboard.org/BLACK>

7.- Camera.

CMUcam5, or WebCam Logitech E3500, via USB 2.0 port.

<http://www.cmucam.org/projects/cmucam5/wiki>

8.- Sensors

CHR-UM6 Orientation sensor, Gyros (3x), Accels (3x), Mag (3x). Estimation in Roll, Pitch, Yaw, Quaternion.

<http://www.pololu.com/catalog/product/1255>

9.- Batteries

Two packages of rechargeable LiPo batteries of **18.5 volts at 25C 750mAh.**