

# University of Manitoba Snobots Robot Description

February 18, 2014

We will participate using modified DARwIn-OP robots with the following specifications:

- Height: 455 mm
- Mass: 2.8 kg
- Motors: 20-22 Robotis MX-28T motors (Head: 2, Arms: 3ea, Legs: 6ea, Optional hands: 1ea)
  - Research is ongoing as to the merits of equipping the goal keeper with 1-DOF hands to allow it to manipulate the ball
- Sensors:
  - Colour Logitech USB webcam (320x240 pixels)
  - Torque, temperature & position sensors in each motor
  - Four-point FSR sensors in feet
  - Three-axis gyroscope
  - Three-axis accelerometer
- Main CPU: FitPC2i
  - CPU: Intel Atom Z530 1.6Ghz
  - RAM: 1GB
- Secondary Controller: Robotis CM730
  - CPU: ARM Cortex 72MHz
- Sustained Walking Speed: 24cm/s
- Burst Walking Speed: 35cm/s



Figure 1: One of our DARwIn-OP robots from the front and side. This robot is equipped with single-DOF hands