

## Events Participated by HKUST Students in RoboGames 2024

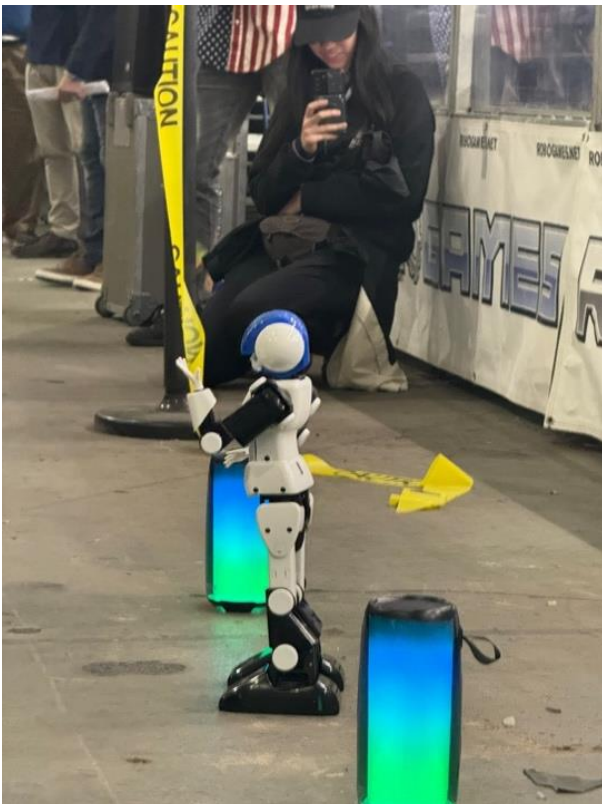
### Sumo (3kg Remote Control)

HKUST swept the board in this event, winning the gold, silver and bronze medals. During the game, two robots compete in a head-to-head match following the basic system of traditional human sumo matches. Robots are allowed no weapons, and are not allowed to flip each other. The sole purpose is a pushing match between the two robots to force the other from the arena.



### Humanoid – Freestyle (Kit)

The HKUST team sent out two robots to perform music and dance shows and won the gold and silver medals. Humanoid robots are programmed to spend two minutes displaying whatever dance, moves, acrobatics, demonstration, or series of demonstrations that the operator sees fit. Music is allowed as is human interaction with the robot.



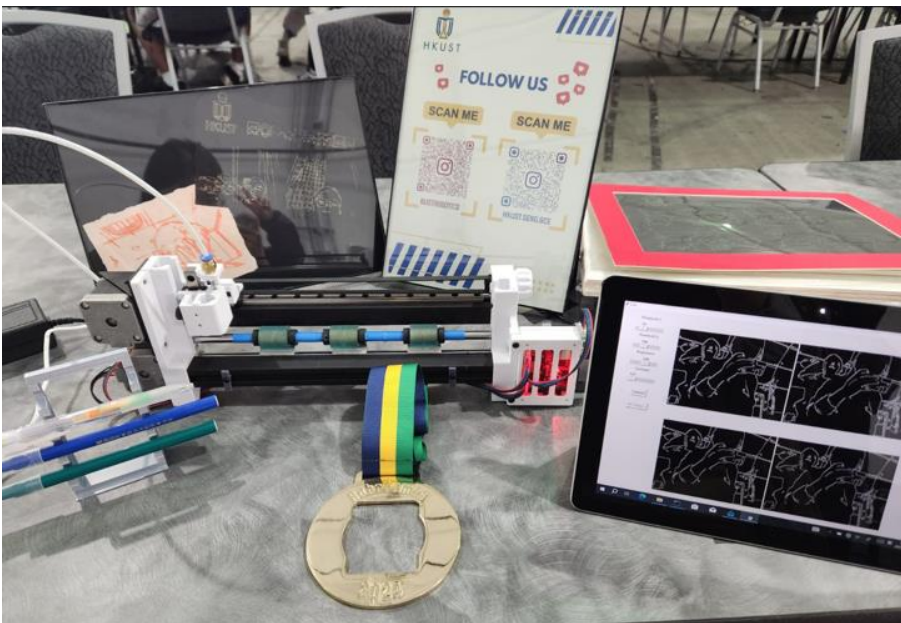
## Walker Challenge

HKUST won the gold medal in the Walker Challenge. A four or six-legged robot must quickly navigate over a pile of trash in the race for top speed autonomously.



## Art Bots – Painting

The STEAM Tutor Team of HKUST built a painting robot that can capture photos and immediately create painting strokes. The robot will then draw the images out with a pen. The team gained the gold medal because of their creativity and the aesthetic quality of the final painting.



### **Auto Humanoid – Lift and Carry**

The HKUST team won the gold medal with a record-breaking weight of 46 heavy loads. The goal of this competition is to provide an event that requires robots to use active balancing. The robots will be fitted with a small basket and repeatedly walk across an uneven terrain from one side to the other. The robot that can carry the most weight is declared the winner of the event.

### **Auto Humanoid – Obstacle Run**

The HKUST team successfully got the silver medal in this competition. The humanoid robot must move autonomously from one end of the playing field to the other as quickly as possible and avoid the obstacles on track.

### **Auto Humanoid – Dash**

The HKUST team won the bronze medal in this competition. The robots need to move as quickly as possible from a start line to an end line for a series of segments autonomously.



### **Balancer Race (Auto) / (Remote Control)**

The HKUST team was recognized with gold medals in both the autonomous and remote control events. A balancing robot is a robot that is statically unstable: the robot will remain upright under its own power, but it will fall over if power is removed. The robots need to complete the course in the shortest period of time, while staying balanced.



### **Beam Speeder**

The HKUST team successfully created the fastest solar-powered robot and collected the gold medal. Solar-powered robots (with no battery backup) must rush from point to point, with the fastest robot winning. The robots have no digital circuits or programming, and exhibit their behavior due to analog circuit design.





## NatCar

HKUST is the champion again in the NatCar event. The NatCar is a radio-control sized car that must autonomously follow a complex white line set against a black background. Robots must track the line without losing it, and the fastest robot wins.

