

Hertfordshire team wins Humanoid Simulation League in Robot Football Cup

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The Bold Hearts, a student team from the University of Hertfordshire, has just won the Humanoid Simulation League in the Robocup German Open 2009. The team is now preparing for the Robocup World Championships in Austria, which will run from 29 June to 5 July, where they will play against student teams from across the globe.

The Bold Hearts team were unbeaten throughout the competition, which took place in Hannover from 20-24 April. They won the final 4-0 against a team from Isfahan in Iran.

RoboCup (www.robocup2009.org/) is one of the largest and most important robotic competitions/conference series in the world. Its express goal is to provide a setting to advance research in Artificial Intelligence (AI) and Robotics through robotic competitions; at its core are team games between autonomous robots in various disciplines, most prominently the robot soccer games. The RoboCup Federation's long term flagship goal is to have humanoid robots play against the human soccer world champions in 2050 - and win.

This year's competition included a number of strong teams from Portugal, Germany, and Iran and consisted of three rounds and the finals. The Bold Hearts virtual robots came top in each round and won the final in some style.

"The University of Hertfordshire is one of the very few UK universities participating in RoboCup 2009 and the only UK institution participating



in this years' 3D simulation humanoid soccer league (the University of Oxford will participate only in the 2D simulation soccer league this year)," said Dr Daniel Polani, a member of the Bold Hearts team. "As RoboCup has world-wide exposure and coverage, we expect a very good opportunity to increase the visibility of the University of Hertfordshire and promote its scientific and educational work."

Since its inception in 1997 in Nagoya, Japan, the RoboCup championship has come a long way. Every year sees significant advances in scientific and technological aspects of robotic research. Whereas early years concentrated on having simple wheeled robots identifying the ball and realizing ever so simple moves, in the recent years the challenge has risen to develop stable walking robots that can kick a ball without falling down and achieving increasingly more sophisticated behaviours.

Since the handling of hardware robots involves the investment of a significant proportion of time into managing technical hardware problems irrelevant to AI research, there are also simulation leagues which avoid hardware pitfalls. In simulation, the RoboCup teams concentrate on developing software that controls the robots, which operate as avatars in a virtual world simulating the physics of the real world. The virtual robots are entirely autonomously controlled. Once the game has started, no human team member is allowed to interfere with what the robots are doing, and the robots are entirely on their own. Thus, the challenge is to provide the <u>robot</u> AI controllers as to allow the virtual robots to perform as well as possible.

Source: University of Hertfordshire (<u>news</u> : <u>web</u>)

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