



Background Information

RoboCup Junior and Education

RoboCupJunior promotes project-oriented, team-based education, giving children with a variety of interests and abilities an opportunity to pick their own challenges while contributing to the progress of the whole.

Recent research in educational psychology supports the idea of constructionism as a tool to enhance the acquisition of skills by learning through doing. RoboCupJunior also puts emphasis on hands-on experience by allowing children to develop their own robot soccer player and participate in tournaments.

Source: www.artificialia.com/RoboCupJr/

RoboCup Junior and Technology

In the forthcoming decades, progress in technology will demand that informatics leave applications which are exclusively computer-based and instead become invested in the development of common objects containing "intelligence" (e.g., household appliances, cars, etc.). These types of objects will be governed by "intelligent" or "adaptive" software and must continuously interact with a changing and non-deterministic real world. Many skills are needed to construct and operate such objects, skills which integrate different competencies, not just the ability to build and work with computers and software applications.

In RoboCupJunior, these competencies are introduced to students through challenges that reach across a wide range of theoretical and practical issues. We use autonomous mobile robots to give students hands-on experience with construction and programming, physics and mechanical engineering, mathematics and artificial intelligence. Through the robotic medium, we can teach about artificial life, evolutionary computation, hardware-software interaction, distributed systems, electronics and communication.

Source: www.artificialia.com/RoboCupJr/

Robot Dance Competition

The aim of the robot dance competition is to design, build and decorate an autonomous robot that will dance along to a song chosen by the competitor. Dance routines will be judged according to several criteria such as: programming, construction, costume, choreography, creativity, originality, entertainment value.

Robot Football Competition

In the robot football competition, two teams of competitors design, build and program one or two robots that should aim to move an infra-red emitting ball across a gray-scale pitch into their opponents goal. Matches are either one-on-one or two-on-two.