Robots for Learning

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ABSTRACT

An increasing amount of HRI research focuses on the development of social robots acting as tutors. While robots have been popular as a focus for STEM teaching (see Lego Mindstorms or Thymio), the use of robots as tutors is novel. The field of HRI has started reporting on how to make effective robot tutors and how to measure their efficacy. These studies have shown that the potential of robots in educational settings is inarguable: robot can provide educational content tailored to the individual, something which is missing from current educational settings. They also have the potential to enhance learning via kinesthetic interaction, can improve the learner's self-esteem and can provide empathic feedback. Finally, robots have been shown to engage the learner, to motivate her in the learning task or to enhance collaboration in a group. However, many questions still remain. For instance, what interaction strategies aid learning, and which hamper learning? How can we deal with the current technical limitations of robots? How should effective lessons be developed and implemented on a robot? Answering these and other questions requires a multidisciplinary effort, including contributions from pedagogy, developmental psychology, (computational) linguistics, artificial intelligence and HRI, among others. The aim of this workshop is to engage scholars who aim to gain expertise in education and in robotics (from instructional design to inverse kinematics, ROS to ZPD, Markov to Piaget) into a new interdisciplinary community working on educational robotics. Participants will benefit from hearing from the forefront of field and from discussions on how to move from fundamental research towards the development of market-ready educational robots.

CCS Concepts

•**Computer systems organization** → **Embedded systems;** *Redundancy;* Robotics; •**Networks** → Network reliability;

Keywords

ACM proceedings; LaTeX; text tagging

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