Proposing HRBAIM: (Human Robotics based Animal Interaction Method) by using Haptic Technology

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 177

Number 1

Year of Publication: 2017

Authors:
Aina Sharma, Inderpal Singh, Rimmy Chuchra

10.5120/ijca2017914813

Abstract

This paper presents a new animal inspired methodology (AIM) named HRBAIM that is termed as human robotics based animal interaction method. Here, humans and robotics will perform a collaborative task by utilizing haptic technology and takes a joint action in our daily life works. This paper shows a pet dog can be handled or controlled by the machine robotics where robotics acts as a master for pet dog. The instructions are given to pet dog by his master who is robotics and the overall control is in the hand of human who is act as a Grand Master and robotics act as a slave for grand master (who is human). For providing continues surrounding interactions authors utilizes haptic technology. This collaboration/mutual-co-ordination of AIM (Animal Inspired Method) plays a vital role in daily life like during the absence of humans in their homes robotics will take care of their pet dogs. The other benefit to utilize this animal inspired methodology is to reduce the human burden, save energy, save time and most importantly transferring human responsibilities to the Robotics machines that ultimately provides a regular contact of humans with their pet dogs even in their absence. Hence, robotics easily handle problems occurs with pet dog artificially with a step closer to natural touch. In addition, this
proposed methodology may also help to learn animals behavior to humans in intelligent manner.

References

7. Emanuele Ruffaldi and Massimo Bergamo, Haptic Interfaces for embodiment in virtual Environment, PERCRO Lab, Itlay.
9. Haptic Technology in surgical simulation &mechanical training a touch revolution, 2011.IEEE.
10. Sabrina Panels, Where are we with Haptic Visualization, Computing Lab, UK.
15. Emil Petrín, Elsadik, Juan Silva & Mauricio Orozco, Role of haptics in games, University of Ottawa, Canada.
Proposing HRBAIM: (Human Robotics based Animal Interaction Method) by using Haptic Technology

skills training system, International Journal of clinical skills, UK.
23. Saeid nahavandi.Timothy Black, James Mullins & Christopher Mawson, Haptic control of multi-axis robotics system, Intelligent system research lab, Australia.
30. V.N Fulkar, 2010. Applications of haptics technology in advance robotics, IEEE.
34. Sudipto Mukhrjee & Aisranou Oshawa Rait, Teleoperation with haptics.
38. Karon E. Mac I Can & steve Yohana, the haptic creature project: Social HR Interaction through Affective touch: SPIN (Sensory Perception & Interaction Research Group), Canada.
44. www.huffingtonpost.com/entry/electric-sensors-let-you-use-your-phone-by-touching-your
   -skin-55c8e72de4b.
47. m/id/13207666/ns/technology-and-science-science/t/sensor-could-bring-human-touch-ro
   bots/#.vefitw4rdkg.
   sitive-as-human-skin.

Index Terms

Computer Science
Control Systems

Keywords

Human-Robotic Interaction, Haptic Technology, Tactile Sensors, Holographic Interactions.