Abstract

The natural species found in this world exhibit some form of intelligence in their conducts. The human being is the ultimate benchmark among all the species, which shows the intelligence in almost every conduct in their life. So in the world of artificial intelligence we are trying to mimic the behavior of the human being through the machines. The artificial counterpart of the human being who has the resemblance with the human being is called biped or humanoid. In this paper we review the machine learning techniques which are popular among researchers from last 10 to 15 years for learning task in robotics. Machine learning techniques specifically includes supervised learning, unsupervised learning and Reinforcement learning.

References

2. Auke Jan Ijspeert. Central pattern generators for locomotion control in animals and


12. Lingling Chen, Peng Yang, He Chen, Xi Guo, Gait optimization of Biped Robot Based on Mix Encoding Genetic Algorithm, School of Electrical Engineering and Automation, Hebei University of Technology, Tianjin, China, IEEE 2007.

13. Pandu Ranga Vundavilli, Dilip Kumar Pratihar, Soft computing based gait planners for a dynamically balanced biped robot negotiating sloping surfaces, IIT Kharagpur, India, 2008 ELSEVIER.


17. Kai hu, Dongheui Lee, Bipedal locomotion primitive learning, Control and prediction from human data, 10th IFAC symposium on robot control, September 5-7, 2012

18. Sidahmed Benabderrahmane, Combining boosting machine learning and swarm intelligence for real


27. J.G. Daniel Kassen and Martijn Wisse, Fall detection of two legged walking robots using multi-way principal component analysis, International journal of humanoid robotics, Vol. 07, No. 01, p.p. 73-93, 2010


37. Wenzhen Yang, Xinli Wu and Hua Zhang, Workspace Modeling and Analysis for


60. Daniel Herrera, Flavio Roberti, Ricardo Carelli, Victor Andaluz, Jose Varela, Jessica Ortiz and Paul Canseco, Modeling and Path-Following Control of a Wheelchair in Human-Shared Environments, International journal of humanoid robotics, Vol. 15, Issue 02 (2018), 1850010

**Index Terms**

Computer Science  
Artificial Intelligence

**Keywords**

Biped, Central pattern generator (CPG), Deep Learning, Machine Learning, neural oscillators.