TECH OFFER

ROBOT IMITATION LEARNING THROUGH SELF-EXPLORATION

▶ MORE INFORMATION

MEGA-TREND
- Robotic education
- Innovating to Zero, Innovative Technologies of the Future

TECHNOLOGY READINESS LEVEL (TRL)
- TRL 4

PATENT/ GRANTED NUMBER
- PI 2015700899

▶ TECHNOLOGY OVERVIEW

The present invention relates to a method of imitation learning of a robotic companion through self-exploration characterised by the steps of: generating random movements of the robots body and associating the produced action with its effect perceived through vision at a reflecting means; determining primitive actions from continuous movements to comprehend visual body images; gathering resulted primitive actions to formulate an apprehension of the actions for learning bi-directional mapping between visual body images and motor actions; segmenting the actions into primitive actions using image sequences by translating the image sequences into feature vectors; clustering the changes in actions defined by the start

and end of each action according to feature vector values; labelling and storing the clustered actions in the robots memory; observing a subjects action sequences; processing the observed action sequences for matching the clustered actions; and imitating the observed action sequences; wherein if the observed action sequences matches the clustered actions, the learned primitive actions is recalled; wherein if the observed action sequences does not match the clustered actions, the unmatched action sequences will be classified as a new action in the robots memory.

CONTACT US!

Dr. Lee Ching Shya
UMCIE Business Officer
Email: leecs@um.edu.my
Phone: +603 – 7967 7351 / 7352