Title	A Study on Learning Interaction Relationships for Indoor Human Activity with RGB-D Video
Author(s)	Truong, Minh Anh
Citation	
Issue Date	2018-03
Type	Thesis or Dissertation
Text version	author
URL	http://hdl.handle.net/10119/15247
Rights	
Description	Supervisor: , ,

A Study on Learning Interaction Relationships for Indoor Human Activity with RGB-D Video

TRUONG Minh Anh (1510218)

School of Information Science,
Japan Advanced Institute of Science and Technology

March 14, 2017

Understanding human activity has been an important research area in computer vision. Generally, we can model the human interactions as a temporal sequence with the transition in relationships of humans and objects. On the other hand, many studies have proved the effectiveness of Long Short-Term Memory (LSTM) networks in long-term temporal dependency problems. In this study, the author proposed a novel Structured Recurrent Neural Network (S-RNN) to model spatio-temporal relationships between human subjects and objects in daily human interactions. The author represent the evolution of different components as well as the relationships between them over time by several LSTM subnets. Then, the hidden representations of those relations are fused into the later layers to obtain the final hidden representation. The prediction is carried out by the single-layer perceptron. The experimental results of different tasks on the CAD-120, SBU-Kinect-Interaction, and Multi-modal & Multi-view & Interactive (M2I) datasets showed advantages of the proposed method compared with the state-of-art methods.