**HIERARCHICALATTENTIONANDCONTEXTMODELINGFORGROUPACTIVITY RECOGNITION**

**Abstract:**

Group activity recognition in videos is a challenging task, with two major issues, i.e. attending to those persons and their body parts that contribute signiﬁcantly to the activity, and modeling contextual person structures in the group. Most previous approaches fail to provide a practical solution to jointly address both issues, however. In this paper, we propose to simultaneously deal with both issues via a hierarchical attention and context modeling framework based on Long Short-Term Memory (LSTM) networks. For the former, we propose ‘Hierarchical Attention Networks’ applied at the part/person level, capable of attending distinctively to different persons and their body parts. For the latter, we build ‘Hierarchical Context Networks’ that take the attentively pooled person-level features as input and recurrently model intra/inter-group contextual structures. The attentive and contextual representations are concatenated and fed into another LSTM to generate high-level discriminative temporal representations for group activity recognition. Extensive experiments on two widely-used group activity datasets demonstrate the effectiveness and superiority of the proposed framework.

**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

* System : Pentium Dual Core.
* Hard Disk : 120 GB.
* Monitor : 15’’ LED
* Input Devices : Keyboard, Mouse
* Ram : 1 GB

**SOFTWARE REQUIREMENTS:**

* Operating system : Windows XP/UBUNTU.
* Implementation : NS2
* NS2 Version : 2.28
* Front End : OTCL (Object Oriented Tool Command  Language)
* Tool : Cygwin (To simulate in Windows OS)