Framework of Hierarchical Sensory Grammars for Inferring Behaviors using Distributed Sensors

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Description:

Methods, systems and apparatuses that utilize a grammar hierarchy to parse out observable activities into a set of distinguishable actions. Allows the user to determine the behavior of an entity from interpreted sensor data. The method greatly simplifies the encoding requirements. Lower level grammar hierarchies infer simple human behaviors that allow for higher level grammar hierarchies to infer higher order human behaviors. Each layer infers and summarizes information using lightweight computations and thus effectively reduces the amount of data that needs to be propagated across the network and the network hierarchy. These properties provide a simple, modular yet very scalable framework that can potentially enable the creation of complex sensor systems.

Field of Application: Sensor networks in everyday life situations such as assisted living, security, entertainment and workplace safety. Designed to enhance information from off-the-shelf sensor network and passive infrared cameras eg. to function as a visual human filter that robustly determines the presence of humans, translates pixels into tracking information and recognizes gestures such as sitting down, getting up, falling, turning.
Stage of Development: Prototype


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