

# Engineering Applications of Artificial Intelligence

## Special Issue on “Advanced issues in Artificial Intelligence and Pattern Recognition for Intelligent Surveillance System in Smart Home Environment”



### Introduction

Recently, the concept of smart home (SH) provides automatic services for human and promotes to the application technologies of innovation industry. The application technologies include multiple sensors (such as wireless sensor network, microphone, ultrasonic, infrared rays and pressure), human interface machine (such as touch panel, image/voice recognitions and remote control), internet services, smart devices and access monitoring. It is an important issue how to integrate and manage with all devices and heterogeneous networks. Moreover, with the advent of increased network bandwidth and improved image processing technologies, intelligent surveillance system has become one of rapidly emerging applications in smart home environment. Traditional closed-circuit television (CCTV) requires a relative small amount of operators to continuously monitor a significant number of cameras in areas which need security, such as military installations, roads, and airports. Intelligent surveillance systems can provide automated services such as abrupt incursion detection, shortest path recommendation using traffic jam analysis, robbery monitoring, and people counting. During the last decades, many researchers in image processing and AI community have been focused on developing image and video analysis and understanding. However, despite their extensive efforts on these, there are still several significant challenges such as robust object segmentation and tracking, motion feature extraction, context modeling, and machine learning algorithms. Therefore, more advanced related issues should be taken into account.

### Topics

Topics of interest include, but are not limited to:

- Audio-visual surveillance for SHE (Smart Home Environment)
- Audio & Video based event recognition and abnormal behavior detection for SHE
- Gesture and activity classification for surveillance system in SHE
- Knowledge representation and ontology engineering for surveillance system in SHE
- Machine learning methods for surveillance system in SHE
- OSGi based systems for SHE
- Semantic scene representation and interpretation for SHE
- Semantic-driven user and context modeling, acquisition and representation for SHE
- Other artificial intelligence and pattern recognition approaches for surveillance system in SHE
- Other smart home issues and technologies

### Submission Details

All the papers should be full journal length versions and follow the guidelines set out by Engineering Applications of Artificial Intelligence ([http://www.elsevier.com/wps/find/journaldescription.cws\\_home/975/description](http://www.elsevier.com/wps/find/journaldescription.cws_home/975/description)). Manuscripts should be submitted online at <http://ees.elsevier.com/eaai/> by choosing “Intelligent Surveillance System” as paper category, no later than December 31, 2011. Information about the manuscript (title, full list of authors, corresponding author’s contact, abstract, and keywords) should also be sent to the corresponding editor Seungmin Rho ([pc.seungminrho@gmail.com](mailto:pc.seungminrho@gmail.com)). All the papers will be peer-reviewed following the EAAI reviewing procedures.

### Important Dates (Tentative)

Submission of papers: September 15, 2011  
First-round acceptance notification: December 15, 2011  
Revision: January 15, 2012

Final decision: February 15, 2012  
Publication of special issue: 3Q/4Q in 2012

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