Call for book chapters

State of the art on AI applied to Ambient Intelligence

"Frontiers in Artificial Intelligence and Applications"
IOS Press Book Series
http://ebooks.iospress.nl/bookseries/frontiers-in-artificial-intelligence-and-applications

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Motivations

During the last decade, questions were raised on how intelligent were the so called "*smart systems*"[1] and the stereotype smart system was somehow identified in the *smart homes*. Nowadays, the word *smart* has become a sort of wild card to be attached to any new product introduced to the market[2]. The area related to Smart Homes has blended with other areas in Computer Science and expanded in several directions. Popularity has grown exponentially and several areas of applications are now less science fiction and more of a reality. There are Smart Cars, Smart Classrooms, Smart Farming and many other environments where technology is changing the way people relates to them.

Accompanying this popularity, there have been several events which are now established and provide a forum to researchers and innovators in general to debate the limitations and perspectives of these areas. One of such events is the Workshop on Artificial Intelligence Techniques for Ambient Intelligence (AITAmI) which is being run for 10 consecutive editions (http://aitami2015.mondragon.edu) and investigated precisely how AI can improve the performance of Smart systems. Ambient Intelligence is one of the ways to refer to the 'artificial intellectual capabilities' of Smart systems.

More in general, the theme in the IJCAI 2007 edition was "AI and its benefits to society", back then initial links between Ambient Intelligence and the AI community were attempted[3], complemented recently with another related and more specific tutorial[4]. More recently AI Magazine published a Special Issue focused on the topic "Artificial Intelligence for, Rather than Instead of, the People"[5] considering many applications which have been previously considered within the Ambient Intelligence area. From different directions different communities within Computer Science are converging to the cross roads which is ultimately stating that technology is created to help non less than people, and for systems to be able to help people properly they need to be clever.

It was anticipated a decade ago the analysis of the extent and the way that AI can benefit Ambient Intelligence was not obvious, although it was clear that AI seemed in a good position to contribute to the new emerging field. There are still many interesting open questions, for example, "*What is good AI use in Ambient Intelligence?*", because there are ethical dimensions to this, and "*How much intelligence is needed to make a difference?*", or "*How people expects to find intelligence in their surroundings?*". This call aims at capturing chapters that provide a clear picture of what has been achieved after a decade of discussion and, most importantly, what avenues are the most promising for exploration in the next decade. Indeed, this volume would create a reference that field experts can use to be updated and to be inspired to create better systems for society.

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[1] http://www.springer.com/gb/book/9783540359944
[2] http://www.drinksmartwater.com/#/home
[3] http://www.ijcai-07.org/tutorialdesc.php#t18
[4] See T21 in www.ijcai-15.org/index.php/list-of-tutorials
[5] http://www.aaai.org/ojs/index.php/aimagazine/issue/view/212

Topics

Areas of interest include, but are not limited to, the following:

- context awareness
- activity recognition
- individual/group emotional status
- individual/group preferences
- mediating conflicting interests
- non invasive sensing and interaction
- cognitive modelling of users
- modelling complex environments (smart homes, smart cars, hospitals, museums, transportation, classrooms, open spaces, etc.)
- intelligent interactive systems
- multi-modal interfaces (voice, image and video, bio-signals, handwriting, etc.)

as well as…

- agent-based approaches to AmI
- applications (health, industry, teaching, supporting group collaboration, etc.)
- responsive/active architecture
- innovative applications of AI to Ambient Intelligence
- traditional relevant areas of AI (KR, reasoning about actions, spatio-temporal reasoning, CBR, planning, uncertainty, learning, belief revision, vision, decision-making, etc.)

Authors' Instructions

Authors may submit novel contributions of approximately 20 pages. All papers will be reviewed against the standard criteria of relevance, originality, significance, clarity and soundness, and are expected to meet high quality standards. Contributions may not be submitted to other conferences or journals during the reviewing period nor they may be already under review or published in other conferences or journals.

All submissions will be made electronically, through the EasyChair conference system: https://easychair.org/conferences/?conf=aiami2016. Submitted PDF papers should follow the IOS Press author kit instructions for formatting: http://www.iospress.nl/service/authors/latex-and-word-tools-for-book-authors/

For more information, see the volume submission page: http://aitamibook.mondragon.edu

Important Dates

Chapter Submission: **15th of April 2016**
Notification of Acceptance: **15th of June 2016**
Revised Version Submission: **15th of September 2016**
Final Recommendations: **1st October 2016**
Final Version due: **1st of November 2016**
Book submission to IOS Press: **15th of November 2016**
Foreseen Publication Date: **January 2017**

Information on book series "Frontiers in Artificial Intelligence and Applications"

The book series Frontiers in Artificial Intelligence and Applications (FAIA) covers all aspects of theoretical and applied Artificial Intelligence research in the form of monographs, doctoral dissertations, textbooks, handbooks and proceedings volumes.

The FAIA series contains several sub-series, including 'Information Modelling and Knowledge Bases' and 'Knowledge-Based Intelligent Engineering Systems'. It also includes the biennial European Conference on Artificial Intelligence (ECAI) proceedings volumes, and other ECCAI (European Coordinating Committee on Artificial Intelligence) sponsored publications. An editorial panel of internationally well-known scholars is appointed to provide a high quality selection.