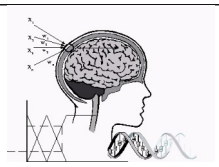
International

Innovation in Knowledge Based and Intelligent Engineering Systems



INVITED SESSION SUMMARY

Title of Session:
Semantic Models for the Web of Things

Name, Title and Affiliation of Chair:
Dr. José Miguel Blanco
School of Telecommunications Engineering, Technical University of Madrid, Spain

Prof. Dr. Mouzhi Ge
Faculty of ECRI, Deggendorf Institute of Technology, Germany

Details of Session (including aim and scope):

The Web of Things (WoT) is a set of standards that aim at solving the interoperability of the Internet of Things (IoT) devices with application domains such as healthcare or smart homes. The interoperability is featured by converting the characteristics of the IoT network into the Web Ontology Language, where an Internationalized Resource Identifier is used to assign a uniquely identifiable name to the device and also specifies the location of the resource. Furthermore, those IoT devices are usually integrated into WoT via Semantic Models. This allows for the development of Reasoners fed with data extracted directly from the Semantic Models. These Reasoners have been applied to expert systems in different domains from economy to transportation. As such, the use of semantic reasoners for WoT allows for the processing and reasoning of dynamically generated data, which has been, among others, implemented into a variety of smart applications.

Aim

In this invited session, we aim to provide a platform for discussing approaches, models, results and case studies addressing a broad range of issues related to semantic models in the context of WoT. This invited session is to attract WoT papers that can be based on quantitative and qualitative methods, design science as well as experimental and simulation. The invited session is also to bring together researchers working in various areas related to semantic web, data analytics and Web applications in order to share interesting results, ongoing work, and foster future collaborations.

Topic of Interests

Topics of interest include but are not limited to:

- Interoperability of IoT devices
- Novel web architectures
- Formal ontologies for emerging domains
- Real-time data reasoning

- Semantics-based Smart City applications
- Distributed computing on the Web of Things
- Data Analytics in Web of Things
- Edge/Cloud computing for the Semantic Web
- Analysis of Linked Data in Web of Things
- Semantic data digestion for AI deployment
- Knowledge extraction in Web of Things
- Machine learning for Semantic Web of Things

Main Contributing Researchers / Research Centres (tentative, if known at this stage):

Laboratory of Real-Time Systems and Architecture of Telematic Services, Technical University of Madrid, Spain

European Campus Rottal-Inn at Deggendorf Institute of Technology, Germany

Website URL of Call for Papers (if any):
We will construct a website for the invited session.

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