The role of interpretable fuzzy systems in designing cognitive cities

Título	The role of interpretable fuzzy systems in designing cognitive cities
Autores	Jose M. Alonso, C. Castiello, C. Mencar
Tipo	Capítulo de libro
Fonte	Designing Cognitive Cities: Linking Citizens to Computational Intelligence to Make Efficient, Sustainable and Resilient Cities a Reality, Springer, Vol. 176, pp. 131-152 , 2019.
ISBN	978-3-030-00316-6
ISSN	2198-4182
DOI	10.1007/978-3-030-00317-3_6

Abstract In recent years, there has been a huge effort connecting all kind of devices to Internet. From small devices (e.g., e-health monitoring sensors or mobile phones) that we carry daily in what is called the body-area-network, to big devices (such as cars), passing by all devices (e.g., TVs or refrigerators) at home. In modern cities, everything (at work, at home, and even in the streets) is connected to Internet. Accordingly, the amount of data in Internet grows dramatically every day. With this regard, humans face two main challenges: (1) to extract valuable knowledge from the given Big Data and (2) to become part of the equation, i.e., to become active actors in the Internet of Things. To do so, researchers and developers have created a novel generation of intelligent systems which are producing more and more intelligent devices, yielding what is called smart cities. Fuzzy systems are used in many applications in the context of Smart Cities. Now, it is time to address the effective interaction between intelligent systems and citizens with the aim of passing from smart to Cognitive Cities. Moreover, the use of interpretable fuzzy systems can facilitate such interaction and pave the way towards Cognitive Cities.

Palabras chave Interpretability, Fuzzy Logic, Computational Theory of Perceptions, Linguistic Descriptions of Complex Phenomena, Collaborative Intelligence, Human-machine Communication, Cognitive City

LIGAZÓNS

🔗 Versión da editorial

DESCARGAS

📄 Referencia BibTex

PROXECTOS DE INVESTIGACIÓN

eXplica-IA: Diseñando Sistemas Inteligentes Explicables que Interaccionan con Personas y Generan Explicaciones en…