Consiglio Nazionale delle Ricerche
Istituto di Calcolo e Reti ad Alte Prestazioni

SEMINAR NOTICE

Prof. Antonio Liotta

Chair of Data Science, Director of the Data Science Research Centre, University of Derby, UK

"Data Science for the Internet of Things"

Tuesday, September 11, 2018
10:00 to 11:00
Meeting Room – ICAR-CNR
Via P. Bucci 8-9 c – Rende (CS)

Abstract

The Internet of Things, the idea that the physical world around us can be digitized, monitored and controlled, is fascinating as it complex. IoT is a mix of smart and dumb 'things', a digital ecosystem projected to grow in size and complexity by a factor of a thousand, connecting one trillion 'things' by 2025. It is expected to generate trillions of gigabytes annually, a vast volume of noisy, unstructured data originating from uncorrelated sources. IoT is the biggest big-data problem we have ever encountered. It is in fact a most challenging data science problem. But how far can conventional data science methods go when it comes to IoT systems? In this talk, I discuss how theories from network science and computational intelligence can help tackling hard IoT problems, giving samples of my research in *miniaturized machine learning* and *distributed data mining*. This seminar introduces the data science elements of IoT to a non-specialist audience, pinpointing promising areas of research and collaboration.

Short biography

Antonio Liotta (www.derby.ac.uk/staff/antonio-liotta) is Professor of Data Science and the founding director of the Data Science Research Centre, University of Derby, UK. He is the director of the Joint Intellisensing Lab (with nodes in the UK, Netherlands, Italy, Australia and China); and a Guest Professor at Shanghai Ocean University, China and at Eindhoven University of Technology, NL. His team is at the forefront of influential research in *data science* and *artificial intelligence*, specifically in the context of *Smart Cities*, *Internet of Things*, and *smart sensing*. Antonio is a member of the U.K. Higher Education Academy, IEEE Senior Member, and serves the Peer Review College of the U.K. Engineering and Physical Sciences Research Council. He is the Editor-in-Chief of the Springer Internet of Things book series; associate editor of the Journals JNSM, IJNM, JMM, and IF; and editorial board member of 6 more journals. He has 6 patents and over 290 publications to his credit, and is the author of the book Networks for Pervasive Services: six ways to upgrade the Internet. He is renowned for his contributions to miniaturized machine learning, particularly in the context of the Internet of Things (see recent Nature Grand Challenges interview). He has led the international team that has recently made a breakthrough in artificial neural networks, using network science to accelerate the training process (see Nature Communications paper and this press coverage).