

Andrea Sciarrone

Fixed-term assistant professor

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Education and training

2009

Master Degree in Telecommunication Engineering

Study and realization of a system for the analysis of the audio correspondences for context-aware applications - 110/110 e lode
University of Genoa - Genoa - IT

2014

Ph. D. in Ambient Intelligence

Mobile device processing of heterogeneous signals for Context Aware applications - -
University of Genoa - Genoa - IT

Academic experience

2017 - ONGOING

Assistant Professor

University of Genoa

Research interests

The developed research activities are in framework of the so called Context Awareness (CA) based on the wide employment of mobile devices, for example smartphone terminals, which constitute a typical element of the Internet of Things (IoT). The fundamental disciplines characterizing the research is information and signal processing. The basic idea is considering the plethora of sensors embedded within IoT devices (for examples the ones usually available on smartphones) as a source of raw data which can be processed to infer precious information.

In more practical words, Context Aware applications should answer the following questions about the device's surroundings: What, Who, Where, When, Why and How. As a consequence, in order to provide Context-Aware services, a description of mobile device's environment must be obtained by acquiring and combining context data from different sources, both external (e.g. cell IDs for devices equipped with cellular radios, GPS coordinates, nearby WiFi

and Bluetooth devices) and internal (e.g. idle/active status, battery power, accelerometer measurements).

The research results carried out within this framework concerns several solutions explicitly developed for smartphones but designed to be employed over a generic mobile device/embedded systems. Starting from the sources and sensors available to such terminals, and the possible information they can provide, a set of possible Context-Aware services have been developed. In particular: Audio Environment Recognition, Speaker Count, Indoor and Outdoor Positioning, User Activity Recognition, Emotion Recognition.