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Nuno M. Garcia · Ivan Miguel Pires ·
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IoT Technologies for HealthCare

6th EAI International Conference, HealthyIoT 2019
Braga, Portugal, December 4–6, 2019
Proceedings

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Preface

The 6th EAI International Conference on IoT Technologies for HealthCare (HealthyIoT 2019) took place in the beautiful town of Braga, Portugal, on December 4–6, 2019, under the umbrella of the 5th annual Smart City 360° Summit. The event was endorsed by the European Alliance for Innovation, an international professional community-based organization devoted to the advancement of innovation in the field of ICT.

HealthyIoT 2019 was the 6th edition of an international scientific event series dedicated to Internet of Things (IoT) and Healthcare. IoT, as a paradigm leveraging a set of existing and emerging technologies, notions, and services, can provide many solutions to delivery of electronic healthcare, patient care, and medical data management. HealthyIoT aims to bring together technology experts, researchers, industry professionals, and international authorities contributing towards the design, development, and deployment of healthcare solutions based on IoT technologies, standards, and procedures.

The technical program of HealthyIoT 2019 consisted of 10 full papers in oral presentation sessions at the main workshop tracks. The papers submitted and presented during the workshop cover many health sensors and systems technologies, applications, and services, as well as solutions. Sensor data synchronization in the IoT environment was presented as the devices from different producers generate data in different formats and often are not capable to timestamp the values after measurements. Important implementation for infants motricity measurement was shown. Photoplethysmogram (PPG) signal processing is another hot topic related to the blood pressure measurement. A measurement of PPG in real-time especially during intense physical activity is applied for studying the physical condition of the people. Electromyography (EMG) sensor embedded into textile was developed to control the functions of the prosthesis. Important design of a smart mechatronic system to combine garments for blind people was also demonstrated.

IoT for health applications and solutions presented more complex approaches aiming to create market ready devices and software. Smartwatch blood pressure measurement using PPG signal and physiological features was proposed. Smartphone based monitoring for automatic eating control through Wi-Fi presented an interesting approach for lonely people under social monitoring. The solution called SocialBike quantified data from physical activity. Nice tool assisting the radiologists in X-ray diagnostics supports the everyday work in the screening clinics. Wireless medical systems for forensic was shown. Smart home assisting services through an IoT-based healthcare ecosystem was demonstrated.

Coordination with the steering chair, Imrich Chlamtac, as well as valuable support from Nuno M. Garcia, Aleksandar Jevremovic, Nuno Pombo, Susanna Spinsante, Francisco Floréz-Revuelta, Ivan Pires, Kristina Lappyoova, Miguel Castelo-Branco,

Hugo Silva, and Henriques Zacarias was essential for the success of the workshop. We sincerely appreciate their constant work and guidance.

We strongly believe that the HealthyIoT 2019 workshop provided a good forum for all researcher, developers, and practitioners to discuss all science and technology aspects that are relevant to smart health. We also expect that the future HealthyIoT workshops will be as successful and stimulating, as indicated by the contributions presented in this volume.

December 2019

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