# 2015 15th International Conference on Innovations for Community Services (I4CS 2015)

Nuremberg, Germany 8-10 July 2015



IEEE Catalog Number: CFP1543Y-POD ISBN: 978-1-4673-7329-6

# **Table of Contents**

Foreword

Gerald Eichler

#### Session1: Recommendation, Classification & Emotion

How the Distribution of the Number of Items Rated per User Influences the Quality of Recommendations 1

Michael Grottke, Julian Knoll and Rainer Groß

Multilayer Classification of Web Pages Using Random Forest and Semi-supervised Latent Dirichlet Allocation 9

Karim Sayadi, Quang Vu Bui and Marc Bui

Happy Hour – Improving Mood with an Emotionally Aware Application 16

Pedro Carmona, David Nunes, Duarte Raposo, David Silva, Carlos Herrera and Jorge Sa Silva

# Session 2: Tracking, Location & eMobility

Correlation Filter Based Visual Trackers for Person Pursuit Using a Low-Cost Quadrotor 23

Klaus Haag, Sergiu Dotenco and Florian Gallwitz

Generating Meaningful Location Descriptions 31

Jörg Roth

Applying Stochastic Methods for Range Prediction in E-Mobility 39

Kai Gebhardt, Volkmar Schau and Wilhelm Rossak

#### Session 3: Smart Energy, Metering & Sensor Networks

End User Centred Interactive Software Architecture and Design: The Creation of Communities for a Smart Energy Use 43

Joachim Glatz-Reichenbach, Thomas Vilarinho, Giuseppina Cretella, Carmel Lindkvist, Adrian Minde and Leendert W. M. Wienhofen

A Privacy-friendly Smart Metering Architecture with few-instance Storage 51

Asif Mohammad, Jürgen Stader and Dirk Westhoff

Scheduling Approaches for Wireless Sensor Networks 58

Bandar Al-Ghamdi, Marwane Ayaida and Hacene Fouchal

# Session 4: eLearning, Program & Event Scheduling

Centralized Student Learning Platform – Needs and Requirements of Current and Potential Academic Users 64

Gerald Eichler, Christian Erfurth and Karl-Heinz Lüke

Towards a Privacy-Preserving Hybrid Radio Network: Design and Open Challenges 71

Mirco Schönfeld, Martin Werner, Claudia Linnhoff-Popien and Alexander Erk

A Novel Development Paradigm for Event-based Applications 77

\*\*Jörg Roth\*\*

# Session 5: Environment, Emergency & Security

Smartphone-based Networks for Earthquake Detection 84

Qingkai Kong, Young-Woo Kwon, Louis Schreier, Steven Allen, Richard Allen and Jennifer Strauss

Feasibility Study of a Mobile Ad-hoc SOS System 92

Amro Al-Akkad

Custom-fit Security for Efficient and Pollution-Resistant Multicast OTA-Programming with Fountain Codes 100

Oliver Stecklina, Stephan Kornemann, Felix Grehl, Ramona Jung, Dennis Schweer, Thorsten Kranz, Gregor Leander, Dirk Westhoff and Katharina Mollus

# Session 6: eHealth & Applications

A Hybrid Approach for Simultaneous Obstacle Avoidance and Stabilization of Dynamic Bipedal Walking using the Aldebaran Nao Robot 108

Christian Ullrich, Sergiu Dotenco and Florian Gallwitz

Efforts in Developing Android Smartphone Sports and Healthcare Apps based on Bluetooth Low Energy and ANT+ Communication Standards 114

Hans Weghorn