Call for papers:

Collaborative Technologies and Data Science in Smart City Applications

Special issue

Journal of Universal Computer Science

Guest Editors

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Rationale & Call for Manuscripts

Smart Human Centered Computing: Socio-technical systems aim to ease collaboration among people mediated by technology. This mediation role is especially important in the case of collaboration applied in virtual spaces using large amount of heterogeneous data for learning or working. Mobile systems based on Ambient Intelligence (AmI) could enhance the possibilities available for designers and practitioners. However, a number of complexities must be resolved before such systems are really appreciated by the stake-holders. Among these difficulties are the challenges posed by collaborative human computer interaction and high network capacity overcoming small-size screens and network interruptions, appropriate user awareness, security and privacy issues, providing satisfactory user experience.

Smart City Applications (SCA) and Smart Environments (SmE) together with Internet of Things (IoT) and reliable Cloud Computing Technologies supporting mobile users in all areas of daily life must guarantee performance, data integrity, privacy, network security, and accuracy in the outcome of algorithms. To fulfill these requirements, a modern Verification and Validation Assessment (VVA) including appropriate user interaction and recommending services based on adaptive criteria is essential. Validation can be achieved via special metrics that help to compute a degree of model similarity or to compare reconstructed objects and their behavior with their real-world instances.

Huge amounts of heterogeneous input and output data and high system complexity require new visual and collaborative analytics to interpret the results. Reliable visual analytics is preceded by an assessment of (meta-) data and code quality, methods to propagate and bound uncertainty and validation efforts with formal rigor. Collaborative

outcome analytics done by various stakeholders with multiple expertise deals with system evaluation, effective data mining, problem solving and concerted follow-up actions. Advanced data and visual analytics for sense making in big data environments mainly rely on quality assessment, awareness of data provenance and characteristics as well as safety, security and privacy issues.

Topics of interest include, but are not limited to, the following:

- Ambient intelligence and cloud computing technologies in SCA
- Semi-formal description of smart city systems, virtual reality-supported analytics for ambient intelligent systems
- SmE Frameworks: Reconfigurable hardware and adaptive software for the IoT, secrecy communication networks, community detection, new concepts in cryptography & clouds
- Visual and cognitive analytics, with emphasis to big/multidimensional/ heterogeneous data visualization, uncertainty issues, reliability and collaboration
- Collaboration in SCA and their evaluation, e.g., collaboration and crowdsourcing in virtual museums, public transportation systems, geo-referenced decision making
- Open questions in VVA: Wide error bounds, missing or inadequate mathematical model, ill-conditioned or too complex problems, inefficient algorithms, unknown, insensitive or parameters with uncertainty; probabilistic models with outliers, wrong sensor readings or result evaluation; anomaly detection in (geo-referenced) big data or (sensor) networks patterns, looking at people's behavior, cheating in all stages of a running process or system
- Use cases which realize relevant parts of reliable cloud computing technologies, its "self-driving" capabilities employing data analytics, a data quality assessment, privacy/security requirements, collaborative, reliable visual analytics, recommender systems, verification & validation assessment
- Data science and information theoretic approaches for smart systems
- AI and advancements in industrial solutions towards the above-mentioned topics.

Important Deadlines

Invitation to submit an extended CODASSCA paper by: September 17, 2018.
Deadline for submitting papers by: December 17, 2018.
First round of reviewing, received by: March 1, 2019.
Decisions concerning reviews by: March 15, 2019.
Second round of reviewing, received by: April 30, 2019.
Final decisions by: May 31, 2019.
Final papers (including preface) submitted to journal by: July 10, 2019.

Program committee

General Co-Chairs: Wolfram Luther (Germany) & A. J. Han Vinck (Germany)
Organizing Committee Chair: Aram Hajian (Armenia)
Program Committee Chair: José A. Pino (Chile)
Program Chair Track: Technical Challenges for Smart Environments: Ashot Harutyunyan (Armenia)
Program Chair Track: Big Data/Security: Yanling Chen (Germany)
Program Chair Track: Collaboration: Tomoo Inoue (Japan) / Nelson Baloian (Chile)
Program Chair Track: Smart Human Centered Computing: Xiaojun (Jenny) Yuan (USA)

Submission and Evaluation Procedure

The Journal of Universal Computer Science is a high-quality electronic publication that deals with all aspects of computer science. J.UCS has been appearing monthly since 1995 and is thus one of the oldest electronic journals with uninterrupted publication since its foundation. A number of special issues as well as the printed archive editions of the volumes are also available in print and can be ordered directly from J.UCS office. The impact factor of J.UCS is 0.546, the 5-year impact factor 0.684 (2015). For further information, please refer to

http://www.jucs.org/jucs_info/aims/unique_features.html

Manuscripts must be submitted in PDF format, written in English and should not exceed 20 pages. Papers only prepared according to the JUCS's guidelines for authors and submitted online (see procedure described below) will be included in the review process. Illustrations and tables must be provided as integrated parts of the manuscript. The guidelines for authors are available at

http://www.jucs.org/ujs/jucs/info/submissions/style_guide.html

For all potential authors who have received an invitation for an extended version of their CODASSCA 2018 paper, please bear in mind that we can only consider submissions which are significantly extended (at least 50 percent new material and the title of the extended version must clearly and unmistakably differ from the title of the article presented at the conference). Only novel research papers which are currently not under review at another event or a journal are accepted for the review process. For more details, please also refer to

http://www.jucs.org/ujs/jucs/info/special_issues/special_guidelines.html

Please submit your original and proof-read papers not later than December 17, 2018 using the submission system at (https://easychair.org/conferences/?conf=JUCS-CODASSCA2018). Each paper will be blind reviewed by at least 3 reviewers. According to the covered main subjects in the content, a selected set of reviewers with the appropriate expertise will be assigned.