# The 7th IEEE International Workshop on Big Data and IoT Security in Smart Computing

During SMARTCOMP 2023 (June 26-30, 2023, Nashville, Tennessee) https://www.yama.info.waseda.ac.jp/en/bits2023

## **Call for Papers**

Smart computing aims at improving the quality of life and experience in modern society and represents the next wave of computing. Key technologies for realizing smart computing include sensing, IoTs, mobile and pervasive computing, cyber-physical-social systems, big data, machine learning, data analytics, and social and cognitive computing. Smart computing helps to solve a wide variety of societal challenges related to transportation, energy, healthcare, finance, disaster management, and so on.

At the core of all such systems and applications, critical issues include security, privacy, reliability, resiliency, robustness, and efficiency. Indeed, to boost the development of big data applications in smart computing, data security, data traceability as well as efficiency are extremely important.

After successful previously holding three IEEE International Workshops on Big Data and IoT Security in Smart Computing (IEEE BITS 2017/2018/2019/2020/2021/2022), the 7th workshop, IEEE BITS 2023, will be held focusing on theories and implementations of security, privacy, reliability, resiliency, and robustness secure computing and efficient data management in Cloud/IoT environment. BITS is a full-day workshop that is going to be organized in conjunction in conjunction with the 9th IEEE International Conference on Smart Computing (SmartComp2023) in June 2023.

The topics to be addressed at BITS2023 will include but are not limited to, theoretical or practical aspects of big data and IoT in smart computing and cyber-physical systems. Papers describing experience on real prototype implementations are also welcome. Submissions should be targeted to one of the following sub-topics:

- Anonymity for big data
- Big data management and its efficiency in Smart Computing
- Cloud security and privacy policies
- Data traceability for big data
- Distributed systems security
- Encryption theory and its implementations for big data
- IoT services and applications in Smart Computing
- Legal study for big data
- Machine learning in Smart Computing
- Privacy risk assessment
- Secure computation for big data
- Security management
- Side-channel attacks in Smart Computing
- Trust, security, privacy, and data provenance issues in Smart Computing
- Privacy issues for big data
- Security and privacy issues in various smart computing applications such as transportation, energy, environmental, smart city, healthcare, and social media

## **Submission Guidelines**

Paper submissions should be no longer than 6 pages and formatted according to the <u>IEEE conference template</u>. Papers must be submitted electronically as PDF files through <u>EDAS</u> by selecting the **BITS2023** track.

All submitted papers will be subject to peer reviews by Technical Program Committee members and other experts in the field. All presented papers will be published in the SmartComp2023 conference proceedings and submitted to the **IEEE Xplore Digital Library**. All accepted papers will be **EI indexed**.

### IEEE conference template

Submission from EDAS (please select BITS2023 track)

## **Organizing Committee**

### **General Co-Chairs**

- Hayato Yamana, Waseda University, Japan
- Sajal K. Das, Missouri Univ. of Science and Technology, USA

### **Technical Program Co-Chairs**

- Shameek Bhattacharjee, Western Michigan University, USA
- Keiichi Yasumoto, Nara Institute of Science and Technology, Japan

### **Technical Program Committee**

• TBA

### **Important Dates**

Paper Submission Deadline: April 15, 2023

Accepted Notification: May 3, 2023

Camera Ready Deadline: May 10, 2023

Workshop Date: during SMARTCOMP 2023



in conjunction with the 9th IEEE Conference on Smart Computing (SmartComp)

CALL FOR PAPERS - Ninth IEEE International Workshop on Sensors and Smart Cities - SSC 2023

June 26, 2023, Vanderbilt University, Nashville, Tennessee.

### **Technical Program**

TBA

### Description

A smart city represents an improvement of today's cities both functionally and structurally, that strategically utilizes many smart factors, such as information and communications technology (ICT), to increase the city's sustainable growth and strengthen city functions, while ensuring citizens' quality of life and health. Cities can be viewed as a microcosm of "objects" with which citizens interact daily: street furniture, public buildings, transportation, monuments, public lighting and much more. Moreover, a continuous monitoring of a city's status occurs through sensors and processors applied within the real-world infrastructure.

The Internet of Things (IoT) concept imagines all these objects being "smart", connected to the Internet, and able to communicate with each other and with the external environment, interacting and sharing data and information. Each object in the IoT can be both the collector and distributor of information regarding mobility, energy consumption, air pollution as well as potentially offering cultural and tourist information. As a consequence, cyber and real worlds are strongly linked in a smart city. New services can be deployed when needed and evaluation mechanisms will be set up to assess the health and success of a smart city.

The aim of this workshop is to bring together innovative developments in areas related to sensors and smart cities, including but not limited to:

- computing and sensing infrastructures
- cost (of node, energy, development, deployment, maintenance)
- communication (security, resilience, low energy)
- adaptability (to environment, energy, faults)
- data processing (on nodes, distributed, aggregation, discovery, big data)
- · distributed data collection and storage in Smart Cities

- self-learning (pattern discovery, prediction, auto-configuration)
- deployment (cost, error prevention, localization)
- maintenance (troubleshooting, recurrent costs)
- applications (both new and enjoying new life)
- smart users experience
- trust and privacy
- crowdsourcing, crowdsensing, participatory sensing
- cognition and awareness
- cyber-physical systems
- smart tourism

### **Submission Guidelines**

Paper submissions should be no longer than 6 pages with a font size of 10 using the IEEE conference template. Papers must be submitted electronically as PDF files. All submitted papers will be subject to single blind peer reviews by Technical Program Committee members and other experts in the field. All presented papers in the conference will be published in the proceedings of the conference and submitted to the IEEE Xplore Digital Library. Authors are requested to first register their submissions and submit their manuscripts in PDF format via EDAS. Note that at least one author of each accepted paper must register and attend the workshop to present the paper. Failure to present the paper at the workshop will result in the withdrawal of the paper from the Proceedings.

### Important dates

Paper Submission: 20 March 2023 (EXTENDED): April 15, 2023 Acceptance Notification: 20 April 2023 Camera-ready submission: 10 May 2023

### **Organizing Committee**

### Workshop Co-Chairs:

Dario Bruneo, University of Messina, Italy Antonio Puliafito, University of Messina, Italy

### **TPC Co-Chairs:**

Carlo Puliafito, University of Pisa, Italy Fabrizio De Vita, University of Messina, Italy

### **Publicity Chair:**

TBA

### **Technical Program Committee:**

TBA

# IEEE SmartSys 2023

Smart Service Systems

## Eighth IEEE International Workshop on Smart Service Systems SmartSys 2023

### June, 2023 | Nashville, Tennessee, USA

http://smartsys2023.dii.unipi.it

Co-located with the IEEE International Conference on Smart Computing (IEEE SMARTCOMP 2023)

Technology succeeds when it provides benefits to the society either directly or indirectly. Understanding the societal and economic impact and human-centered aspects of a smart system or technology in advance and designing the system a-priori with potential value-added services help spur the discoveries of new tools, methodologies and innovative services. Smart service systems span across a variety of socio-technical facets comprising of devices, people, organizations, environments and technologies to sense, actuate, control and assess the physical, cyber and societal artifacts of the human service systems. Besides the systems being self-adaptive and fault-tolerant, need to be designed in such a way that it can continuously increase the quality and productivity, the compliance and sustainability of the smart services it offers. While human-centered perspective and cognitive learning help create multi-facet value added services and catalyze the sustained economic growth of smart service systems, understanding the multi-modal sensing, control, heterogeneity and interdependency between different physical, virtual and logical components of such a complex system will enable the realization of new transformative smarter service systems. If successful, this can help improve the quality-of-experience of the customers, quality-of-life of the citizens and quality-of returns of the stakeholders and investors.

Nurturing the development of smart service systems seeks for inter- and trans-disciplinary crosscutting research threads from system and operational engineering, computer science and information systems, social and behavioral science, computational modeling and industrial engineering etc. The goal of this workshop is to bring together practitioners and researchers from both academia and industry in order to have a forum for discussion and technical presentations on the fundamental knowledge and principles of smart service systems that enable the value co-creation in sensing, actuating, data analytics, learning, cognition, and control of human centric cyber-physical-social systems and future of work.

Topics of interest include, but are not limited to:

- Innovative tools, methodologies and solutions for smart service systems; example includes personalized healthcare, smart energy, smart cities, smart manufacturing, intelligent transportation, education, precision medicine and agriculture, national security etc.
- Information extraction and interpretation from sensors, actuators, smart phones, wearable devices (e.g., smart watches), and humans
- Context and situational awareness of smart service systems.
- Design of people-centric services and technologies for providing better services such as food, transportation and places to live.
- Novel architectures and interoperable solutions for Internet of Things.
- Models and methodologies for designing systems of systems.
- Big data analytics approaches for providing better customer services, and innovating new types of sustainable services.
- Modeling, analysis, co-production, and co-evolution of human activity, behavior and interaction for the effective adaptation and percolation of longitudinal smart service systems.
- Role of machine learning, artificial intelligence, robotics, pervasive computing, blockchain, control theory, information and communications technologies.
- Role of formal methods in computer networks, cyber-physical systems, Internet-of-Things and machine learning.
- Design and developments of intelligent systems, intelligent enterprises and cyber-physical-socialsystems.
- Design of inter-dependent complex global systems such as healthcare, smart grid, computer networks, logistics and supply-chains, financial markets etc.
- Smart infrastructure and testbed to support the integration of autonomous systems and innovative applications

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- Design and implementation of analytical methods, simulation software and experimental testbeds to evaluate the key performance indicators of smart services.
- Design of approaches for trustworthiness of human-centered smart systems and algorithms.

### SmartSys Program

TBD

Panel

TBD

### Submission instructions

Authors are invited to submit regular (full) papers for presentation at the workshop, describing original, previously unpublished work, which is not currently under review by another workshop, conference, or journal. Regular papers should present novel perspectives within the general scope of the workshop.

Papers may be no more than 6 pages in length. Papers in excess of page limits shall not be considered for review or publication. All papers must be typeset in double-column IEEE format using 10pt fonts on US letter paper, with all fonts embedded. The IEEE LaTeX and Microsoft Word templates, as well as related information, can be found at the <u>IEEE Computer Society website</u>.

Papers must be submitted electronically as a single PDF file on US Letter size paper (not A4), with all fonts embedded (the PDF-A standard complies with that). Prior to submission, ensure that any running headers/footers, page numbering, as well as blue underlining for URLs and email addresses has been removed.

Submissions must be made via EDAS.

Each accepted paper will require a full SMARTCOMP registration (no registration is available for workshops only).

### Important dates

Manuscript submission: 20 March, 2023 (EXTENDED): April 15, 2023 Paper acceptance notification: 20 April, 2023 Camera-ready paper submission: 10 May 2023 Workshop date: June 2023

### **Organizing Committees**

Workshop Co-Chairs:

- Nirmalya Roy, University of Maryland, Baltimore County, USA
- Carlo Vallati, University of Pisa, Italy
- Gurdip Singh, George Mason University, USA

### Technical Program Co-Chairs:

- Giovanni Nardini, University of Pisa, Italy
- Sreenivasan Ramasamy Ramamurthy, Bowie State University, USA

### Publicity co-chairs:

- Kuldeep Kurte, Oak Ridge National Laboratory, USA
- Raffaele Zippo, University of Pisa, Italy

### Technical Program Committee:

• TBD



### CALL FOR PAPERS 2<sup>nd</sup> International Workshop on Smart Agriculture for the environmental emergency (SmartAgr)

June 26-30, 2023

Vanderbilt University, Nashville, Tennessee

<u>https://smartagr.santannapisa.it/</u> In conjunction with IEEE Int. Conference on Smart Computing (SMARTCOMP 2023)

The global environmental emergency, due to the fast climate changes, is heavily impacting on human activities and life. Agriculture, as one of the main human activities, is directly involved in meeting the needs of the growing population. It is responsible of around the 70% of total water consumption and has heavy effects on the environment and on the land use, increasing the pollution of natural resources (air, water, soil). Recently, agriculture was addressed by a technology evolution where the new paradigm of Smart Agriculture guided the introduction of technologies such as Internet of Things (IoT), wireless sensor networks, wireless communications, remote monitoring to sustain and make more efficient the agriculture production. The global environmental emergency solicits a further evolution of Smart Agriculture to provide scientific and technological solutions suitable to make agriculture more resilient to climate changes and to better address the issues related to the protection of natural resources and to the increased need of food.

In this context, Climate-Smart Agriculture (CSA) is where smart and precise agriculture can converge to provide scientific and technological solutions in support of the planet, human life, and agricultural production, with a continuous attention to the environmental emergency. Climate-Smart Agriculture can guide the evolution of agriculture, make the intensive production more efficient and cope with the growth of a starving population, especially in the most populated and environmentally stressed areas and where natural resources (soil, water and biodiversity) are drastically jeopardized.

Smart Agriculture, treasuring the technology evolution in the field of Pervasive Computing, IoT, Artificial Intelligence, embedded systems etc. and the new perspective introduced by CSA can answer the aforementioned needs, improving the productivity and the environmental sustainability and preserving natural resources. It can drive the evolution of the agriculture and reorienting the focus on the Three Pillars of CSA as stated by the FAO:

- sustainably increasing agricultural productivity and incomes,
- adapting and building resilience to climate change,
- reducing and/or removing greenhouse gas emissions, where possible.

These pillars outline the direction of action regarding the FAO Strategic Framework 2022-2031 based on the Four Betters: better production, better nutrition, a better environment and a better life for all, leaving no one behind.

The 2<sup>nd</sup> International Workshop on Smart Agriculture for the environmental emergency (SmartAgr) investigates the design, implementation, and assessment of innovative technological solutions, including new

paradigms, methods, systems, and tools to ensure the implementation of Smart Agriculture to face off the environmental emergency.

SmartAgr is an interdisciplinary, multi-national initiative to gather electrical and telecommunication engineers, computer scientists, agronomists, biotechnologists to present new pervasive computing and embedded systems, communication and networking solutions and devices to meet the aforementioned challenges. The workshop invites and calls for participation both representatives of academia and industry across the world interested in discussing on the last evolution of Smart Agriculture with a focus on the environmental emergency. From this point of view the workshop can provide a place where to profitably exchange ideas, present applications and solutions taking advantage from the heterogeneity of the contributors to encourage the cross-fertilization of ideas and competencies.

The papers should address forefront research and development in Smart Agriculture with a particular focus on, but is not limited to, the following topics:

- Pervasive computing and embedded systems solutions enabling Smart Agriculture to face off environmental emergency.
- Artificial intelligence in Smart Agriculture with attention to the environmental emergency.
- Communications and networking technologies supporting Smart Agriculture systems and solutions to preserve natural resources and improve productivity.
- New solutions, systems, models, applications to reduce CO<sub>2</sub> emissions.
- Technologies and applications to sustainably increase agricultural productivity and resilience to climate changes.
- Technologies and application to preserve natural resources (soil, water, and biodiversity).

## Each accepted paper requires a full SMARCOMP registration and will be included and indexed in the IEEE digital libraries (Xplore) and in Scopus Database.

### **IMPORTANT DATES:**

Submission Deadline:	April 15, 2023
Acceptance Notification:	May 3, 2023
Camera Ready Submission:	May 10, 2023

### **Organizers and Workshop Chairs**

Anna Lina Ruscelli, Scuola Superiore Sant'Anna, Pisa, Italy Gabriele Cecchetti, Scuola Superiore Sant'Anna, Pisa, Italy

### **Technical Program Committee**

Mohammad Banat, Jordan University of Technology, Irbid, Jordan

Carmelo Di Franco, Aitronik, Italy

Anil Kumar Gupta, Centre for Development of Advanced Computing, Pune University Campus, India Yining Liu, Guilin University of Electronic Technology, China

Mukhtar Mohamed Edris Mahmoud, University of Kassala, Sudan and Puntland State University, Somalia Joel Onyango, Climate Resilient Economies Programme, African Centre for Technology Studies, Kenya Ana Paula Silva, Instituto Politécnico de Castelo Branco - Escola Superior de Tecnologia, Portugal Daniele Sarri, University of Florence, Italy

Nicola Silvestri, University of Pisa, Italy

Lina Stankovic, University of Strathclyde, United Kingdom