

# **2024 IEEE International Conference on Smart Computing (SMARTCOMP 2024)**

**Osaka, Japan  
29 June – 2 July 2024**



**IEEE Catalog Number: CFP2416Z-POD  
ISBN: 979-8-3503-4995-5**

**Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc.  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP2416Z-POD
ISBN (Print-On-Demand):	979-8-3503-4995-5
ISBN (Online):	979-8-3503-4994-8
ISSN:	2693-8332

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# 2024 IEEE International Conference on Smart Computing (SMARTCOMP) **SMARTCOMP 2024**

## Table of Contents

### Tutorials

Tutorial: The Internet of Bio-Nano Things - Smart Computing in the Human Body .....	2
<i>Stefan Fischer (University of Lübeck, Germany)</i>	
Tutorial: Contactless Physiological Health Sensing: Challenges, Solutions & Opportunities .....	3
<i>Nirmalya Roy (University of Maryland, USA) and Zahid Hasan (University of Maryland, USA)</i>	
Tutorial: Advancing Smart Computing: A Comprehensive Tutorial to 3D Point Clouds From Installation to Efficient Processing and Context Recognition for Next-Gen Applications .....	4
<i>Tatsuya Amano (Osaka University, Japan) and Hamada Rizk (Osaka University, Japan)</i>	
Tutorial: Science of Cyber Physical Security in Smart Living CPS Applications .....	5
<i>Sajal K. Das (Missouri University of Science and Technology, USA) and Shameek Bhattacharjee (Western Michigan University, USA)</i>	

## Research Sessions

### Session 1: Smart Computing for Smart Cities

POSCA: Path Optimization for Solar Cover Amelioration in Urban Air Mobility .....	6
<i>Debjyoti Sengupta (Missouri University of Science and Technology, USA), Anurag Satpathy (Missouri University of Science and Technology, USA), and Sajal K. Das (Missouri University of Science and Technology, USA)</i>	
A Graph Neural Network Framework for Imbalanced Bus Ridership Forecasting .....	14
<i>Samir Gupta (Vanderbilt University, USA), Agrima Khanna (Vanderbilt University, USA), Jose Paolo Talusan (Vanderbilt University, USA), Anwar Said (Vanderbilt University, USA), Dan Freudberg (WeGo Public Transit, USA), Ayan Mukhopadhyay (Vanderbilt University, USA), and Abhishek Dubey (Vanderbilt University, USA)</i>	
iFair: Achieving Fairness in the Allocation of Scarce Resources for Senior Health Care .....	22
<i>Modeste Mefenya Kenne (University of California, USA), Prasanna Date (Oak Ridge National Laboratory, USA), Ronald T. Eguchi (ImageCat, Inc., USA), ZhengHui Hu (ImageCat, Inc., USA), Julie Rousseau (UCI Health, USA), and Nalini Venkatasubramanian (University of California, USA)</i>	
Towards Enhanced Urban Management: Introducing a Model for Autonomic Smart City Management	31
<i>Elham Okhovat (University of Western Ontario, Canada) and Michael Bauer (University of Western Ontario, Canada)</i>	
A Method for City-Wide PoI-Level Congestion Prediction via Assimilation of Actual and Simulation-Based PoI Congestion Data .....	39
<i>Haruka Sakagami (Nara Institute of Science and Technology, Japan), Osamu Yamada (Nara Institute of Science and Technology, Japan), Yuki Matsuda (Nara Institute of Science and Technology, Japan; Okayama University, Japan; RIKEN Center for Advanced Intelligence Project AIP, Japan), Hirohiko Suwa (Nara Institute of Science and Technology, Japan; RIKEN Center for Advanced Intelligence Project AIP, Japan), and Keiichi Yasumoto (Nara Institute of Science and Technology, Japan; RIKEN Center for Advanced Intelligence Project AIP, Japan)</i>	

### Session 2: Smart Computing Applications

RATTLE: Train Identification Through Audio Fingerprinting .....	47
<i>Leonardo Ciabattini (University of Bologna, Italy), Luca Sciallo (University of Bologna, Italy), Alfonso Esposito (University of Bologna, Italy), Ivan Zyrianoff (University of Bologna, Italy), and Marco Di Felice (University of Bologna, Italy)</i>	
ContextGPT: Infusing LLMs Knowledge into Neuro-Symbolic Activity Recognition Models .....	55
<i>Luca Arrotta (University of Milan, Italy), Claudio Bettini (University of Milan, Italy), Gabriele Civitarese (University of Milan, Italy), and Michele Fiori (University of Milan, Italy)</i>	

AMPHI: Adaptive Mission-Aware Microservices Provisioning in Heterogeneous IoT Settings .....	63
<i>Yuqiao Li (University of California), Fangqi Liu (University of California), Cheng-Hsin Hsu (National Tsing Hua University, Taiwan), and Nalini Venkatasubramanian (National Tsing Hua University, Taiwan)</i>	
Distributed Radiance Fields for Edge Video Compression and Metaverse Integration in Autonomous Driving .....	71
<i>Eugen Šlapak (Technical University of Košice, Slovakia), Matúš Dopiriak (Technical University of Košice, Slovakia), Mohammad Abdullah Al Faruque (University of California, United States), Juraj Gazda (Technical University of Košice, Slovakia), and Marco Levorato (University of California, United States)</i>	
Sharing the Edge: System Status Aware Object Recognition Task Offloading .....	77
<i>Chenyang Wang (Colorado School of Mines, USA), Owen Eicher (Colorado School of Mines, USA), and Qi Han (Colorado School of Mines, USA)</i>	

### Session 3: Smart Resource Management and Optimization

Enhancing UAV Operational Efficiency Through Cloud Computing and Autopilot System Integration .....	85
<i>Luca D'Agati (National Interuniversity Consortium for Informatics, Italy; University of Messina, Italy), Francesco Longo (National Interuniversity Consortium for Informatics, Italy; University of Messina, Italy), Giovanni Merlino (National Interuniversity Consortium for Informatics, Italy; University of Messina, Italy), Antonio Puliafito (National Interuniversity Consortium for Informatics, Italy; University of Messina, Italy), and Giuseppe Tricomi (National Interuniversity Consortium for Informatics, Italy; University of Messina, Italy; Institute for High Performance Computing and Networking of National Research Council of Italy (ICAR-CNR))</i>	
Water-COLOR: Water-Conservation using a Learning-Based Optimized Recommender .....	93
<i>GuangXue Zhang (University of California), David L. Feldman (University of California), Yiming Lin (University of California), Sharad Mehrotra (University of California), Nalini Venkatasubramanian (University of California), Thayer Drew (Rachio Inc.), Kim Sentovich (Rachio Inc.), and Owen Veranth (Analytiks Inc.)</i>	
From Calls to Scales: Harnessing Smartphone Accelerometer and Vibration for Daily Mass Measurement .....	101
<i>Hamada Rizk (Osaka University, Japan; Tanta University, Egypt), Mirna Elbestar (American University in Cairo, Egypt), and Moustafa Youssef (AUC &amp; Alexandria University, Egypt)</i>	
Cost-Based Modeling and Optimization of Secure Matrix Multiplication in the Cloud .....	109
<i>Richard Hernandez (Florida International University, United States), Kemal Akkaya (Florida International University, United States), and Soamar Homsy (Air Force Research Laboratory, United States)</i>	
Optimizing Risk-Averse Human-AI Hybrid Teams .....	117
<i>Andrew Fuchs (University of Pisa, National Research Council (CNR), Italy), Andrea Passarella (Institute for Informatics and Telematics, National Research Council (CNR), Italy), and Marco Conti (Institute for Informatics and Telematics, National Research Council (CNR), Italy)</i>	

## Session 4: Best Paper Candidates

An MCS Navigation System Based on Road Surface Quality for Bicycle Riders .....	125
<i>Federico Montori (University of Bologna, Italy), Rocco Pastore (University of Bologna, Italy), Luca Sciullo (University of Bologna, Italy), Luciano Bononi (University of Bologna, Italy), and Luca Bedogni (University of Modena and Reggio Emilia, Italy)</i>	
Clustering-Enhanced Reinforcement Learning for Adaptive Offloading in Resource-Constrained Devices .....	133
<i>Khoa Anh Tran (National Institute of Information and Communications Technology, Japan), Minh-Son Dao (National Institute of Information and Communications Technology, Japan), Do-Van Nguyen (National Institute of Information and Communications Technology, Japan), and Koji Zettsu (National Institute of Information and Communications Technology, Japan)</i>	
PREDEA: Predicted-RoI Based Resource-Efficient Object Detection with Aggregation .....	141
<i>Yoshikazu Watanabe (NEC Corporation, Japan), Seiya Shibata (NEC Corporation, Japan), and Takashi Takenaka (NEC Corporation, Japan)</i>	
TASR: A Novel Trust-Aware Stackelberg Routing Algorithm to Mitigate Traffic Congestion .....	150
<i>Doris E. M. Brown (Missouri University of Science and Technology, USA), Venkata Sriram Siddhardh Nadendla (Missouri University of Science and Technology, USA), and Sajal K. Das (Missouri University of Science and Technology, USA)</i>	

## Session 5: Federated Learning for Networked Systems

DP-MTFL: Differentially Private Multi-Tier Federated Learning for IoT Applications .....	158
<i>Ramin Soleimani (University College Cork, Ireland) and Dirk Pesch (University College Cork, Ireland)</i>	
FMLFS: A Federated Multi-Label Feature Selection Based on Information Theory in IoT Environment .....	166
<i>Afsaneh Mahanipour (University of Kentucky, USA) and Hana Khamfroush (University of Kentucky, USA)</i>	
Towards Opportunistic Federated Learning using Independent Subnetwork Training .....	174
<i>Victor II Romero (Nara Institute of Science and Technology, Japan; University of the Philippines Tacloban College, Philippines), Tomokazu Matsui (Nara Institute of Science and Technology, Japan; RIKEN Center for Advanced Intelligence Project AIP, Japan), Yuki Matsuda (Nara Institute of Science and Technology, Japan; Okayama University, Japan; RIKEN Center for Advanced Intelligence Project AIP, Japan), Suwa Hirohiko (Nara Institute of Science and Technology, Japan; RIKEN Center for Advanced Intelligence Project AIP, Japan), and Keiichi Yasumoto (Nara Institute of Science and Technology, Japan; RIKEN Center for Advanced Intelligence Project AIP, Japan)</i>	

## Session 6: Smart Computing for Security and Anomaly Detection

Explainable Deep Learning Models for Dynamic and Online Malware Classification .....	182
<i>Quincy Card (Tennessee Tech University, USA), Daniel Simpson (Tennessee Tech University, USA), Kshitiz Aryal (Tennessee Tech University, USA), Maanak Gupta (Tennessee Tech University, USA), and Sheikh Rabiul Islam (Rutgers University, USA)</i>	
Leveraging Homeostatic Plasticity to Enable Anomaly Detection in Spiking Neural Networks .....	190
<i>Rawan M. A. Nawaiseh (University of Messina, Italy), Fabrizio De Vita (University of Messina, Italy), Enrico Catalfamo (University of Messina, Italy), and Dario Bruneo (University of Messina, Italy)</i>	
On the Role of Re-Descending M-Estimators in Resilient Anomaly Detection for Smart Living CPS .....	198
<i>Sahar Abedzadeh (Western Michigan University, USA) and Shameek Bhattacharjee (Western Michigan University, USA)</i>	
A Domain-Specific Tool for the Creation of Machine Learning Models with Imbalanced Datasets .....	206
<i>Dmitrii Fomin (University Grenoble-Alpes, France), Philippe Lalanda (University Grenoble-Alpes, France), and Denis Morand (Schneider Electric, France)</i>	

## Industry Session

Threshold Estimation-Assisted Unsupervised Patch-Wise Model for Industrial Inspection of Anomaly .....	214
<i>Yang Chen (Nanyang Technological University, Singapore), Peiyue Yuan (Nanyang Technological University, Singapore), Yanyu Wang (Nanyang Technological University, Singapore), Chai Kiat Yeo (Nanyang Technological University, Singapore), Aik-Aun David Khoo (Hyundai Motor Group Innovation Center, Singapore), Minhoe Hur (Hyundai Motor Group Innovation Center, Singapore), Zi Jian Yew (Hyundai Motor Group Innovation Center, Singapore), and Keng Teck Ma (Hyundai Motor Group Innovation Center, Singapore)</i>	
OPTIMUS: Discrete Event Simulator for Vehicle-to-Building Charging Optimization .....	223
<i>Jose Paolo Talusan (Vanderbilt University), Rishav Sen (Vanderbilt University), Ava Pettet (Nissan Advanced Technology Center - Silicon Valley), Aaron Kandel (Nissan Advanced Technology Center - Silicon Valley), Yoshinori Suzue (Nissan Advanced Technology Center - Silicon Valley), Liam Pedersen (Nissan Advanced Technology Center - Silicon Valley), Ayan Mukhopadhyay (Vanderbilt University), and Abhishek Dubey (Vanderbilt University)</i>	

## Posters

An Implementation of Private Function Evaluation using FHE and TEE for Smart Computing Systems .....	231
<i>Ruixiao Li (Waseda University, Japan), Ryutaro Onishi (Waseda University, Japan), and Hayato Yamana (Waseda University, Japan)</i>	

Solving Sequential Competitive Facility Location Challenges: using Parallel Genetic Algorithms .....	234
<i>Sadan Kulturel-Konak (Penn State Berks, USA), Abdullah Konak (Penn State Berks, USA), and Lawrence V. Snyder (Lehigh University, USA)</i>	
Reinforcement Learning Based Matching for Parallel Computation Offloading in Dynamic Fog Computing Networks .....	237
<i>Tran Dang Hoa (Kumoh National Institute of Technology, South Korea) and Kim Dong-Seong (Kumoh National Institute of Technology, South Korea)</i>	
OpenCyberCity Testbed's Recent Progress in Smart City Management .....	240
<i>Mostafa Zaman (Virginia Commonwealth University, USA), Ahmed Malik (Virginia Commonwealth University, USA), Maher Al Islam (Virginia Commonwealth University, USA), Courtney Van (Virginia Commonwealth University, USA), Alyssa Pollard (Virginia State University, USA), Brittany Davis (Virginia State University, USA), Nasibeh Zohrabi (Pennsylvania State University, USA), and Sherif Abdelwahed (Virginia Commonwealth University, USA)</i>	

## Demos

A Table-top Interface for Real-Time Coaching in Abacus Learning .....	243
<i>Yuki Matsuda (Okayama University, Japan)</i>	
Enhanced Pedestrian Detection Model Transfer-Trained on YOLOv8 using DenseFused RGB and FIR Images .....	246
<i>Arata Yoshihara (Nara Institute of Science and Technology, Japan), Ismail Arai (Nara Institute of Science and Technology, Japan), Arata Endo (Nara Institute of Science and Technology, Japan), Masatoshi Kakiuchi (Nara Institute of Science and Technology, Japan), and Kazutoshi Fujikawa (Nara Institute of Science and Technology, Japan)</i>	
A Demonstration of Voice-Interactive AI Agents for Vehicles Utilizing Multiple LLMs .....	249
<i>Toru Furusawa (Toyota Motor Corporation, Japan) and Masatoshi Saitoh (Toyota Motor Corporation, Japan)</i>	

## PhD Forum

PhD Forum: MalFormer001-Multimodal Transformer Fused Attention Based Malware Detector ....	252
<i>Pradip Kunwar (Tennessee Tech University, USA)</i>	
PhD Forum: Sustainable Route Planning and Efficient Computation Offloading in Urban Air Mobility .....	254
<i>Debjyoti Sengupta (Missouri University of Science and Technology, USA)</i>	
PhD Forum: Learning at the Time of Disasters .....	256
<i>Victor II Romero (Nara Institute of Science and Technology, Japan; University of the Philippines Tacloban College, Philippines)</i>	
PhD Forum: Trust-Aware Routing of Human Drivers to Mitigate Traffic Congestion .....	258
<i>Doris E. M Brown (Missouri University of Science and Technology, USA)</i>	



PhD Forum: Deep Neural Networks at the Edge .....	260
<i>Robert Viramontes (University of Wisconsin - Madison, USA)</i>	
PhD Forum: Distributed Radiance Fields for Edge Video Compression and Metaverse Integration in Autonomous Driving .....	262
<i>Matúš Dopiriak (Technical university of Košice, Slovakia)</i>	
PhD Forum: Towards Efficient Urban Mobility: Leveraging GNN and MTL for Demand Forecasting... 264	
<i>Samir Gupta (Vanderbilt University, USA)</i>	

## SCC Workshop

Crowd Flow Prediction from Mobile Traces Through Time Series PoI Stay Counts .....	266
<i>Osamu Yamada (Nara Institute of Science and Technology, Japan), Yuki Matsuda (Okayama University, Japan; Nara Institute of Science and Technology, Japan; RIKEN Center for Advanced Intelligence Project AIP, Japan), Hirohiko Suwa (Nara Institute of Science and Technology, Japan; RIKEN Center for Advanced Intelligence Project AIP, Japan), and Keiichi Yasumoto (Nara Institute of Science and Technology, Japan; RIKEN Center for Advanced Intelligence Project AIP, Japan)</i>	
Comparison of Commercial Pedometer Applications: A Rigorous Approach .....	272
<i>Alessio Terzi (University of Bologna, Italy), Federico Montori (University of Bologna, Italy), Lorenzo Gigli (University of Bologna, Italy), Luca Bedogni (University of Modena and Reggio Emilia, Italy), Marco Di Felice (University of Bologna, Italy), and Luciano Bononi (University of Bologna, Italy)</i>	
Bibliometric Mining of Research Trends for Smart Cities .....	278
<i>Lars Lundberg (Blekinge Institute of Technology, Sweden)</i>	
Paving the Way for an Urban Intelligence OpenStack-Based Architecture .....	284
<i>Giuseppe Tricoli (CINI: National Interuniversity Consortium for Informatics, Italy; University of Messina, Italy; Institute for High Performance Computing and Networking of ICAR; National Research Council (CNR), Italy), Luca D'Agati (CINI: National Interuniversity Consortium for Informatics, Italy; University of Messina, Italy), Francesco Longo (CINI: National Interuniversity Consortium for Informatics, Italy; University of Messina, Italy), Giovanni Merlino (CINI: National Interuniversity Consortium for Informatics, Italy; University of Messina, Italy), Antonio Puliafito (CINI: National Interuniversity Consortium for Informatics, Italy; University of Messina, Italy), and Stefano Silvestri (Institute for High Performance Computing and Networking of ICAR; National Research Council (CNR), Italy)</i>	
A Machine Learning-Based Temperature Control and Security Protection for Smart Buildings .....	290
<i>Mostafa Zaman (Virginia Commonwealth University, Richmond), Maher Al Islam (Virginia Commonwealth University, Richmond), Nasibeh Zohrabi (Pennsylvania State University Brandywine, USA), and Sherif Abdelwahed (Virginia Commonwealth University, Richmond)</i>	

## SmartArg Workshop

Automated Visual Quality Detection for Tilapia using MobilenetV2 Convolutional Neural Network .....	296
<i>Israel Breta (Adamson University, Philippines), Karl Adriane Catalan (Adamson University, Philippines), Sev Kristian Constantino (Adamson University, Philippines), Ralph Adrian Mones (Adamson University, Philippines), and Edward Bustillos (Adamson University, Philippines)</i>	
Early Identification of Oil Palm Health Based on UAV Images using Feature-Based Machine Learning .....	302
<i>Chang Yi Lee (Tunku Abdul Rahman University of Management and Technology, Malaysia), Lee Choo Tay (Tunku Abdul Rahman University of Management and Technology, Malaysia), Weng Chun Tan (Tunku Abdul Rahman University of Management and Technology, Malaysia), Weng Kin Lai (Tunku Abdul Rahman University of Management and Technology, Malaysia), and Sheng Siang Lee (Aonic Sdn Bhd, Taman Perindustrian UEP, Malaysia)</i>	
A Smart Sensor-Based Watering Automation System for Nursery Plants .....	308
<i>Gabriele Cecchetti (Scuola Superiore Sant'Anna, Italy) and Anna Lina Ruscelli (Scuola Superiore Sant'Anna, Italy)</i>	
Boosting Farm Efficiency: An Ant Colony Optimization Approach to Smart Agriculture .....	314
<i>Weng Kin Lai (TAR University of Management &amp; Technology, Malaysia), Lee Choo Tay (TAR University of Management &amp; Technology, Malaysia), Li Li Lim (TAR University of Management &amp; Technology, Malaysia), Weng Chun Tan (University Partnership (Coventry University), Singapore), and Sheng Siang Lee (Aonic Sdn Bhd, Malaysia)</i>	
Farm Households Food Security Status Automation Through Supervised Learning Approach: A Look at Agroecological Farms .....	320
<i>Théodore Nikiema (University of Abomey-Calavi, Institute of Mathematics and Physical Sciences, Benin), Eugène C. Ezin (University of Abomey Calavi, Institute of Training and Research in Computer Science, Benin), Sylvain Kpenavoun Chogou (University of Abomey Calavi, Faculty of Agronomic Sciences, Benin), and Pamela Giselle Katic (University of Greenwich, Natural Resources Institute, United Kingdom)</i>	
Categorizing Farms to Promote Agroecology: A Supervised Learning Approach .....	326
<i>Théodore Nikiema (University of Abomey Calavi, Institute of Training and Research in Computer Science, Benin), Eugène C. Ezin (University of Abomey Calavi, Institute of Training and Research in Computer Science, Benin), and Sylvain Kpenavoun Chogou (University of Abomey Calavi, Faculty of Agronomic Sciences, Benin)</i>	

## SmartSys Workshop

AcouDL: Context-Aware Daily Activity Recognition from Natural Acoustic Signals .....	332
<i>Avijoy Chakma (Bowie State University, USA), Anirban Das (NIIT University, India), Abu Zaher Md Faridee (Amazon, USA), Suchetana Chakraborty (IIT Jodhpur, India), Sandip Chakraborty (IIT Kharagpur, India), and Nirmalya Roy (UMBC, USA)</i>	

AI-Based Kinematic Analysis for Track Athletes .....	338
<i>Mostafa Habibi (The University of Texas at Dallas, USA), Mehrdad Nourani (The University of Texas at Dallas, USA), and Mohammad Nourani (California Polytechnic State University, USA)</i>	
Acoustic Camera-Based Anomaly Detection for Wind Turbines .....	344
<i>Ming-Lun Lee (National Yang Ming Chiao Tung University, Taiwan), Yuan-Heng Sun (National Yang Ming Chiao Tung University, Taiwan; Industrial Technology Research Institute, Taiwan), Ya-Chu Chi (National Yang Ming Chiao Tung University, Taiwan), Yan-Ann Chen (Yuan Ze University, Taiwan), Yao-Long Tsai (Industrial Technology Research Institute, Taiwan), and Yu-Chee Tseng (National Yang Ming Chiao Tung University, Taiwan; CITI, Taiwan)</i>	
Detecting Distress Changes using Multimodal Data During Interaction with A Smart Speaker .....	350
<i>Chingyuan Lin (Nara Institute of Science and Technology, Japan), Yuki Matsuda (Okayama University, Japan; Nara Institute of Science and Technology, Japan), Hirohiko Suwa (Nara Institute of Science and Technology, Japan), and Keiichi Yasumoto (Nara Institute of Science and Technology, Japan)</i>	
DIME: Distributed Inference Model Estimation for Minimizing Profiled Latency .....	356
<i>Robert Viramontes (University of Wisconsin - Madison) and Azadeh Davoodi (University of Wisconsin - Madison)</i>	

## **DM-SmartHealth Workshop**

Requirements Analysis for Responsible Explainable AI for Pediatric Sleep Apnea Diagnosis .....	362
<i>Marta Quemada López (University of Oslo, Norway), Thomas Plagemann (University of Oslo, Norway), Vera Goebel (University of Oslo, Norway), Jonathan Adams (University of Oslo, Norway), David Hui (University of Oslo, Norway), Britt Øverland (Lovisenberg Hospital, Norway), Harriet Akre (University of Oslo, Norway), and Lars Arnesen (University of Oslo, Norway)</i>	
Federated Learning for Sleep Detection Problems .....	368
<i>Guilherme Antonio Borges (University of Coimbra, Portugal and Federal Institute Sul-rio-grandense, Brazil), Julio Cesar Santos dos Anjos (Federal University of Ceará, Brazil), and Jorge Sá Silva (University of Coimbra, Portugal)</i>	
A Numerical Comparison of Deeply Quantized Models for sEMG Hand Gesture Classification on Constrained Devices .....	374
<i>Emanuele Giuseppe Siani (University of Messina, Italy), Laura Scigliano (University of Messina, Italy), Dario Bruneo (University of Messina, Italy), Fabrizio De Vita (University of Messina, Italy), Valeria Tomaselli (STMicroelectronics, Italy), and Danilo Pau (STMicroelectronics, Italy)</i>	

Insights on the Development of PRACTICE, a Research-Oriented Healthcare Platform .....	380
<i>Dragan Ahmetovic (University of Milan, Italy), Alessio Angileri (University of Milan, Italy; Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Italy), Sara Arcudi (University of Milan, Italy; Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Italy), Claudio Bettini (University of Milan, Italy), Gabriele Civitarese (University of Milan, Italy), Marco Colussi (University of Milan, Italy), Andrea Giachi (University of Milan, Italy; Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Italy), Roberta Guatierotti (University of Milan, Italy; Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Italy), Sergio Mascetti (University of Milan, Italy), Matteo Manzoni (University of Milan, Italy), Flora Peyvandi (University of Milan, Italy; Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Italy), Aiman Solyman (University of Milan, Italy), and Addolorata Truma (University of Milan, Italy; Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Italy)</i>	

## **BITS Workshop**

Protecting Cross-Camera Person Re-Identification Data with Image Differential Privacy .....	386
<i>Lucas Maris (Nara Institute of Science and Technology, Japan), Yuki Matsuda (Okayama University and RIKEN AIP, Japan), and Keiichi Yasumoto (Nara Institute of Science and Technology and RIKEN AIP, Japan)</i>	

<b>Author Index</b> .....	<b>393</b>
---------------------------	------------