**ICCCN 2024 Workshop Program Overview**

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| **July 31, 2024 - Workshops** | | | | |
| 10:00 - 12:00 | Meeting Room Keauhou III  ISCC-IoT (7) | Meeting Room  Keauhou IV    BDMLN (7) |  |  |
| 12:00 – 13:30 | Lunch break (lunch is not provided) | | | |
| 13:30 - 15:00 | Meeting Room Keauhou I  COHERENT (4) | Meeting Room  Keauhou II    SmartCityCom (3) |  |  |
| 15:00 - 15:30 | Coffee break | | | |
| 15:30 - 17:30 | Meeting Room Keauhou I  BDSSN I (5) | Meeting Room  Keauhou II  AIECN I (5) | Meeting Room  Keauhou III  IoTSPT (5) | Meeting Room Keauhou IV  BDSSN II+AIECN II (3+2) |

### ISCC-IoT Workshop (RM: Keauhou III)

Chair**:** Jian Wang (National Institute of Standards Technology), Guobin Xu, (Morgan State University)

##### **10:00 – 12:00**

#### ISCC- IoT:

Session Chair: Jian Wang (National Institute of Standards Technology)

* A Cost-Effective Long-Distance Industrial IoT System

Guoping Wang (Purdue University Fort Wayne)

* QATFP-YOLO: Optimizing Object Detection on Non-GPU Devices with YOLO Using Quantization-Aware Training and Filter Pruning

Gift Idama, Yifan Guo, Wei Yu (Towson University)

* Performance Analysis of HFrFT Based on Wigner Transform for ISAC Applications

Mohammad Reza Mousavi, Stephan Ludwig (Aalen University)

* An Exploration of Graph Transformer-Driven Deep Learning Techniques on Malware Detection

Hengshuo Liang, Qianlong Wang, Yifan Guo, Adamu Hussaini, Chao Lu, Wei Yu (Towson University)

* Privacy-Preserving Group Closeness Maximization

Zihao Zhao, Sijia Cao, Hanlin Zhang (Qingdao University), Jie Lin (Xi’an Jiaotong University), Fanyu Kong (Shandong University), Leyun Yu (JIC IOT CO., LTD)

* Leveraging Blockchain and Coded Computing for Secure Edge Collaborate Learning in Industrial IoT

Yuliang Chen, Xi Lin, Hansong Xu ((Shanghai Jiao Tong University), Siyi Liao (China United Network Communication Co., Ltd), Jin Guo (Morgan State University)

* Areo-LLM: A Distributed Framework for Secure UAV Communication and Intelligent Decision-Making

Balakrishnan Dharmalingam, Brett Piggott, Guohuan Feng, Rajdeep Mukherjee, Anyi Liu (Oakland University)

**BDMLN Workshop (RM: Keauhou IV)**

Chair: Nahid Majd, (California State University San Marcos)

**10:00 – 12:00**

#### BDMLN:

##### Session Chair: Nahid Majd, (California State University San Marcos)

* Edge Computing Network Intrusion Detection System in IoT Using Deep Learning

Andres Hinojosa, Nahid Ebrahimi Majd (California State University San Marcos)

* Neural Network-based Blocking Prediction for Dynamic Network Slicing

Nitin Datta Movva, Genya Ishigaki (San Jose State University)

* Network Data Complexity and Its Impact on Machine Learning Performance

Alexis Huante, Mustafa Al Lail (Texas A&M International University)

* Scaling Container Caching to Larger Networks with Multi-Agent Reinforcement Learning

Austin Chen, Genya Ishigaki (San Jose State University)

* Beyond Traditional Methods: Deep Learning with Data Augmentation for Robust Access Control

Mustafa Al Lail, Daniela Pinto, Luis Alvarez Almanza, Francisco Salazar, Carolina Rizzi (Texas A&M International University)

* Uncertainty-Aware Forecasting of Computational Load in MECs Using Distributed Machine Learning: A Tokyo Case Study

Phil Aupke (Karlstad University), Akihiro Nakao (University of Tokyo), Andreas Kassler (Karlstad University)

* Channel Estimation for MIMO-OTFS Satellite Communication: a Deep Learning-Based Approach

Yuan Gao, Xinchen Xu (Shanghai University), Bintao Hu (Xi’an Jiaotong-Liverpool University), Jianbo Du (Xi’an University of Posts and Telecommunications), Wenrui Yang (CTTIC Smart Data Co.,Ltd.), Yanliang Jin (Shanghai University)

**12:00 – 13:30 Lunch break**

### COHERENT Workshop

### (RM: Keauhou I)

Chair: Francesco Tusa (University of Westminster), Stuart Clayman (University College London)

##### **13:30 – 15:00**

#### COHERENT:

##### Session Chair: Francesco Tusa (University of Westminster)

* Sharing Stateless Containers among MEC Applications Composed of Multiple Containers

Shuntaro Yanagisawa, Kohki Yamada, Atsushi Sekiguchi (Keio University), Takao Kondo (Hokkaido University), Ken Kumakura, Keisuke Maesako, Liang Zhang (SoftBank Corp.), Kosuke Mori, Fumio Teraoka (Keio University)

* ECO: Edge Continuum Orchestrator Framework for managing serverless chains across the Cloud-Edge Spectrum

Muhamed Alarbi (University of Western Ontario), Robert Belson (Amazon Web Services), Hanan Lutfiyya (University of Western Ontario)

* Trusting the Cloud-Native Edge: Remotely Attested Kubernetes Workers

Jordi Thijsman, Merlijn Sebrechts, Filip De Turck, Bruno Volckaert ((Ghent University - imec))

* DeePref: Deep Reinforcement Learning For Video Prefetching In Content Delivery Networks

Nawras Alkassab, Chin-Tser Huang (University of South Carolina), Tania Lorido Botran (Roblox)

**SmartCityCom Workshop (RM: Keauhou II)**

Chair: Shuhui Yang,(Purdue University Northwest), Besma Smida (University of Illinois at Chicago)

**13:30 – 15:00**

#### SmartCityCom:

##### Session Chair: Besma Smida (University of Illinois at Chicago)

* CoWiL: Combating Cross-Technology Interference in LoRaWAN

Chenglong Shao, Kazuya Tsukamoto (Kyushu Institute of Technology), Yi-Wei Ma (National Taiwan University of Science and Technology), Yingbo Hua (University of California, Riverside), Xianpeng Wang (Hainan University)

* A Physical WiFi Sensing Testbed for Smart Edge Sensing and Computing

Jianchao Song, Yifan Guo, Chao Lu, Wei Yu (Towson University)

* Hybrid LoRa Network Architecture: Automatic Switching between LoRaWAN and LoRa Mesh Network in Environments with Dynamic Obstacle Variations

Hyungsub Kim (Sangmyung University), Hayoung Kim (Soongsil University), Somi Baek (Kyonggi University), Ryan Melenchuk, Jaden Soroka, Anthony Smith (Purdue University)

**15:00 – 15:30 Coffee break**

### BDSSN Workshop (RM: Keauhou I)

Chair**:** Hanlin Zhang (Qingdao University), Hansong Xu (Shanghai Jiaotong University)

**15:30 – 17:30**

##### **BDSSN I:**

Session Chair: Hanlin Zhang (Qingdao University)

* A Distortion Free Watermark Scheme for Relational Databases

Jiang Han (Institute of Software Chinese Academy of Sciences), Xiaowei Peng (Cryptography and Cyberspace Security (Whampoa) Academ), Hequn Xian (Qingdao University), Dalin Yang (Qingdao University)

* Securing Federated Learning: Enhancing Defense Mechanisms against Poisoning Attacks

Benjamin Birchman, Geethapriya Thamilarasu (University of Washington Bothell)

* Data Security Approaches to Support Open Science on High-Performance Computing Systems

Md Kamal Hossain Chowdhury, Purushotham Bangalore (The University of Alabama)

* Digital Twin based Internet of Vehicles

Cheng Qian (Hood College), Mian Qian (Towson University), Kun Hua (California Polytechnic State University), Hengshuo Liang (Towson University), Guobin Xu (Morgan State University), Wei Yu (Towson University)

* Big Data Quality Scoring for Structured Data Using MapReduce

Yalong Wu, Shalini Dhamodharan, Vinuthna Ghattamaneni, Narmada Kokila, Chandrika Pathakamuri, Timothy Carter (University of Houston-Clear Lake), Pu Tian (Stockton University), Kewei Sha (University of North Texas)

**AIECN Workshop (RM: Keauhou II)**

Chair**:** Bintao Hu (Xi’an Jiaotong-Liverpool University), Yuan Gao (Shanghai University)

**15:30 – 17:30**

#### AIECN I:

Session Chair: Bintao Hu (Xi’an Jiaotong-Liverpool University)

* Markovian Analysis of Information Cascades with Fake Agents

Yuming Han (Northwestern University), Bintao Hu (Xi’an Jiaotong-Liverpool University), Jianbo Du (Xi'an University of Posts and Telecommunications)

* Active Collaboration in IoT: Cognitive-agent Oriented Resource-centric Architecture

Yuji Dong, Shiyao Zhang, Xueyan Yao, Jie Zhang, Sida Huang, Yue Li (Xi'an Jiaotong Liverpool University)

* Web3.0 Literary Landscape: Deep Learning and Blockchain for Nobel Prize Predictions

Sida Huang, Jialuoyi Tan, Yuji Dong, Jie Zhang (Xi an Jiaotong-Liverpool University)

* Decentralized Multi-agent Reinforcement Learning for Large-scale Mobile Wireless Sensor Network Control Using Mean Field Games

Zejian Zhou (University of Wyoming), Lijun Qian (Prairie View A&M University), Hao Xu (University of Nevada, Reno)

* Exploring Similarity-Based Graph Compression for Efficient Network Analysis and Embedding

Hamdi Selim Akin, Mehmet Emin Aktas, Muhammad Ifte Islam, Tanvir Hossain, Esra Akbas (Georgia State University)

### IoTSPT Workshop (RM: Keauhou III)

Chair: Geethapriya Thamilarasu, University of Washington Bothell

**15:30 – 17:30**

#### IoTSPT:

##### Session Chair: Geethapriya Thamilarasu, University of Washington Bothell

* SHPAC: Fine-grained and Multi-platform Supported Access Control System for Smart Home Scenario

Yiyu Yang and Yuqing Zhang (School of Computer Science and Technology, University of Chinese Academy of Sciences)

* Towards Protecting On-Device Machine Learning with RISC-V based Multi-Enclave TEE

Yongzhi Wang, Venkata Boggaram (Texas A&M University-Corpus Christi)

* LibGuard: Protecting Sensitive Data In Third-Party Libraries From XLDH Attacks

Fannv He, Jice Wang, Yuhang Huang, Xiancui Peng, Yuqing Zhang (University of Chinese Academy of Sciences)

* Enhancing IoT Security with Context-Aware RBAC in Cloud Architectures

Marshal Moncivais, Mustafa Al Lail (Texas A&M International University)

* Predicting F1-Scores of Classifiers in Network Intrusion Detection Systems

Priscila Silva, Gaspard Baye, Alexandre Broggi (University of Massachusetts Dartmouth), Nathaniel Bastian (United States Military Academy), Gokhan Kul, Lance Fiondella (University of Massachusetts Dartmouth)

### BDSSN+AIECN Workshops (RM: Keauhou IV)

Chair**:** Hanlin Zhang (Qingdao University), Hansong Xu (Shanghai Jiaotong University)

**15:30 – 17:30**

#### BDSSN II + AIECN II:

Session Chair: Yuan Gao (Shanghai University)

* A Transformer-Based Text Similarity Search Model for Hotline System

Changheng Shao, Fengjing Shao (Qingdao University), Xin Liu, Dawei Yang (China University of Petroleum), Rencheng Sun (Qingdao University)

* Location Privacy Protection Method with Route Constraints

Jiang Han (Institute of Software Chinese Academy of Sciences), Hequn Xian (Qingdao University), Dalin Yang (Washington University), Han Jiang (Qingdao University)

* Privacy-Preserving Edge Assistance for Solving Matrix Eigenvalue Problem

Xiaotong Zhao, Hanlin Zhang (Qingdao University), Jie Lin (Xi’an Jiaotong University), Fanyu Kong (Shandong University), Leyun Yu (JIC IOT CO.,LTD)

* Design of Polarization-Reconfigurable Metasurface-Structured Antenna

Wenzhang Zhang, Jingchen Wang, Di Zhang, Shenhong Wang, Jasmine Kah Phooi Seng, Hengyan Liu (Xi'an Jiaotong-Liverpool University)

* Multimodal Frequeny Spectrum Fusion Schema for RGB-T Image Semantic Segmentation

Hengyan Liu, Wenzhang Zhang (Xi’an Jiaotong-Liverpool University), Tianhong Dai (University of Aberdeen), Longfei Yin, Guangyu Ren (Imperial College London)

**Closing**

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