**ICCCN 2023**

**The 32nd International Conference on**

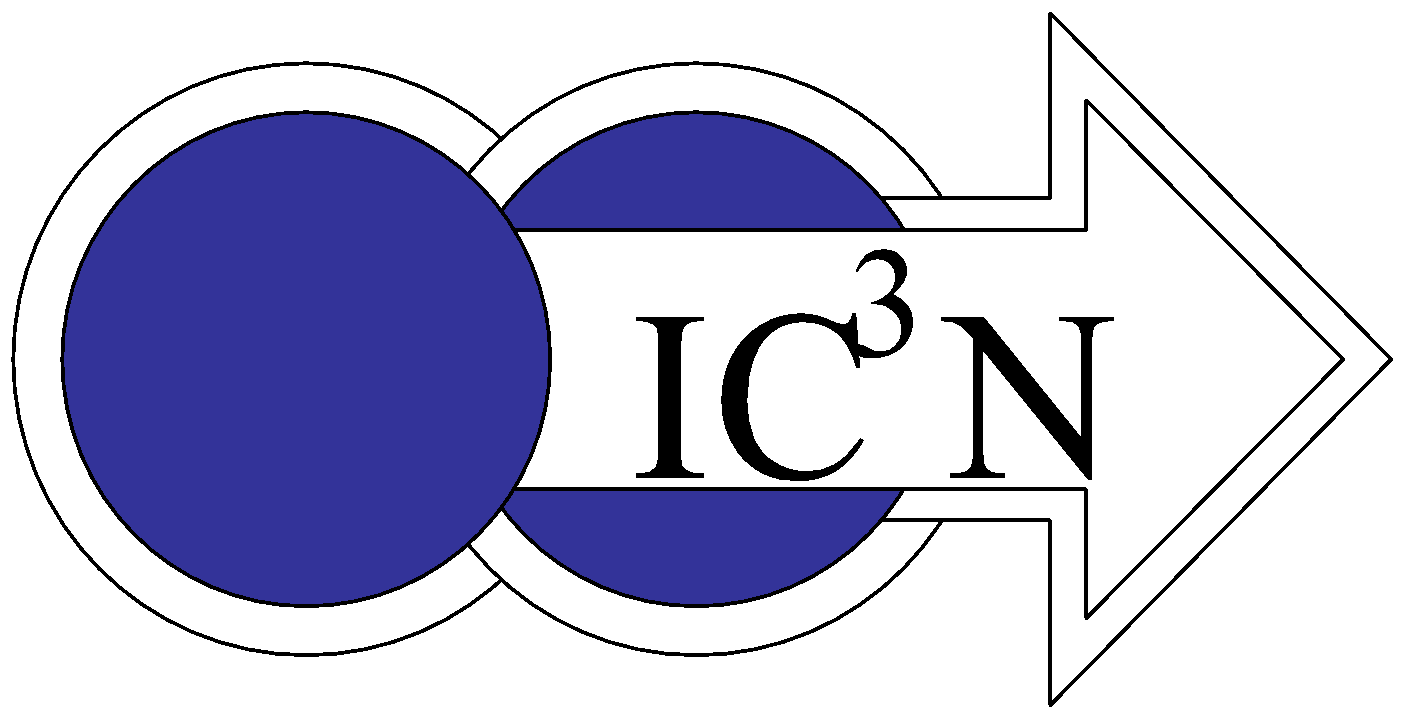
**Computer Communications and Networks**

**July 24 – July 26, 2023**

**Technical Program**

**Waikiki Beach, Honolulu, HI, USA**



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| **July 23, 2023 (Sunday)** |
| |  |  | | --- | --- | | 21:00–22:00 | Registration Open (KOU Ballroom, 2nd floor) | |

ICCCN 2023 Program Overview

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| **July 24, 2023 (Monday)** |
| |  |  | | --- | --- | | 7:30 | Registration Open (KOU Ballroom, 2nd floor) | |
| |  |  | | --- | --- | | 8:15-8:30 | Opening Remarks  Room: KOU Ballroom, 2nd floor | |
| |  |  | | --- | --- | | 8:30-9:30 | Keynote I: AI-EDGE: Designing future XG networks and distributed intelligence  Speaker: Dr. Ness B. Shroff (Ohio State University)  Chair: Dr. Falko Dressler  Room: KOU Ballroom, 2nd floor | |
| |  |  | | --- | --- | | 9:30-10:00 | Coffee break | |
| |  |  |  |  | | --- | --- | --- | --- | | 10:00-12:00 | Session 1  Edge and Cloud Computing  (KOU, 2nd FL) | Session 2  Security I --- Machine Learning for Security  (ELUA, basement) | Invited Talks 1: Emerging Networking Technologies  (EHA, basement) | |
| |  |  | | --- | --- | | 12:00-13:30 | Lunch break (lunch is not provided) | |
| |  |  | | --- | --- | | 13:30-15:00 | Panel I: All Together Now in North America: It Takes Academia, Industry, and Government to Align for the Next Generation of Networks  Moderator: Dr. Eric Burger (Virginia Tech and Next G Alliance Technical Program Director) Room: KOU Ballroom, 2nd floor | |
| |  |  | | --- | --- | | 15:00-15:30 | Coffee break | |
| |  |  |  |  | | --- | --- | --- | --- | | 15:30-17:30 | Session 3: Emerging Topics in Networking  (KOU,2nd FL) | Session 4:  IoT and CPS  (ELUA, basement) | Invited Talks 2: Wireless Networking  (EHA, basement) | | 18:00 – 19:00 | **1-Hour Cocktail/Happy-Hour event (free for all CONFERENCE attendees) – Nalea Terrace (Pool) – 3rd Floor** | | | | 19:00 – 20:30 | **Conference Reception – Nalea Terrace (Pool) – 3rd Floor** | | | |

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| **July 25, 2023 (Tuesday)** |
| |  |  | | --- | --- | | 8:00 | Registration Open (KOU Ballroom, 2nd floor) | |
| |  |  | | --- | --- | | 8:30-9:30 | Keynote II: Complexities of as-a-Service Edge-to-Cloud Platform  Speaker: Dr. Puneet Sharma (Hewlett Packard Labs)  Chair: Dr. Krishna Kant  Room: KOU Ballroom, 2nd floor | |
| |  |  | | --- | --- | | 9:30-10:00 | Coffee break | |
| |  |  |  |  | | --- | --- | --- | --- | | 10:00-12:00 | Session 5:  In-Network Processing  (KOU, 2nd FL) | Session 6: Security II ---Authentication and Detection  (ELUA, basement) | Invited Talk 3: Wireless and Mobile Sensing  (EHA, basement) | |
| |  |  | | --- | --- | | 12:00-13:30 | Lunch break (lunch is not provided) | |
| |  |  | | --- | --- | | 13:30-15:00 | Panel II: Quantum Networking: Synergistic Future  Moderator: Dr Nageswara Rao (Oak Ridge National Laboratory) Room: KOU Ballroom, 2nd floor | |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | 15:00-15:30 | Coffee break | | | | | 15:30-17:30 | Session 7:  Network  Architecture and  Evaluation I  (KOU,2nd FL) | Session 8: Security III --- Network Security  (ELUA, basement) | Invited Talks 4: Machine Learning for Networking  (EHA, basement) | | 19:00-21:30 | **Conference Banquet – Nalea Terrace (Pool) – 3rd Floor** | | | | |

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| **July 26, 2023 (Wednesday)** |
| |  |  | | --- | --- | | 8:00 | Registration Open (KOU Ballroom, 2nd floor) | |
| |  |  | | --- | --- | | 8:30-9:30 | Keynote III: Compromise/Malware Detection vs. Avoidance for Low-End Embedded/Smart/IoT Devices  Speaker: Dr. Gene Tsudik (University of California, Irvine)  Chair: Dr. Wenjing Lou  Room: KOU Ballroom, 2nd floor | |
| |  |  | | --- | --- | | 9:30-10:00 | Coffee break | |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 10:00-12:00 | Session 9:  Network Architecture and Evaluation II (KOU, 2nd FL) | Session 10: Mobile Application and Sensing  (ELUA, basement) | Session 11:  Social  Networks  (EKOLU, basement) | Invited Talks 5:  Security  (EHA, basement) | | | 12:00-13:30 | Lunch break (lunch is not provided) | | | | | | **Workshops and Posters** | | | | | | | 13:30-15:00 | IoT in Emerging Fields (IoTEF)  (KOU, 2nd FL) | Big Data and Machine learning for Networking (BDMLN) (ELUA, basement) | Poster  Session I  (EHA, basement) | Poster  Session II  (EKOLU, basement) | | 15:00-15:30 | Coffee Break | | | | | | 15:30-17:30 | IoT in Emerging Fields  (IoTEF)  (KOU, 2nd FL) | Big Data and Machine learning for Networking (BDMLN)  (ELUA, basement) | Smart City Communication and Network (SmartCityCom)  (EHA, basement) | Security, Privacy , and Trust for IoT (IoTSPT)  (KOLU, basement) | | |

ICCCN 2023 Technical Program

**July 24 (Monday)**

**8:30-9:30**

#### **Keynote I: AI-EDGE: Designing future XG networks and distributed intelligence**

Speaker: Ness B. Shroff (Ohio State University)

Chair: Falko Dressler

**9:30 – 10:00 Coffee break**

**10:00-12:00**

**Session 1: Edge and Cloud Computing**

Chair: Dr. Jianqing Liu, NCSU

* **EA-Market: Empowering Real-Time Big Data Applications with Short-Term Edge SLA Leases**

Ruozhou Yu, Huayue Gu, Xiaojian Wang, Fangtong Zhou, Guoliang Xue and Dejun Yang

##### **Persival: Using Delayed Remote Updates in a Distributed Mobile Simulation**

Johannes Kässinger, David Rosin, Frank Dürr, Benedikt Mehler, Thomas Hubatscheck and Kurt Rothermel

##### **Pervasive Edge Computing Offloading Strategy based on Multi-agent Reinforcement Learning**

Lei Fang, En Wang, Wenbin Liu, Yuanbo Xu and Yongjian Yang

##### **PLCD: Policy Learning for Capped Service Mobility Downtime**

##### Lusungu Mwasinga, Syed Raza, Duc-Tai Le, Moonseong Kim and Hyunseung Choo

##### **Availability Model of a 5G-MEC System**

##### Thilina Pathirana and Gianfranco Nencioni

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#### **Session 2: Security I --- Machine learning for security**

Chair: Prof. Shangqing Zhao, Univ of Oklahoma

##### **Intelligent Security Aware Routing: Using Model-Free Reinforcement Learning**

Anand Mudgerikar and Elisa Bertino

##### **Specific Emitter Identification via Deep Learning Based Polarization Fingerprinting**

Ying Ye, Jinlong Xu, Rui Li and Dong Wei

* **Byzantine-robust Federated Learning**

Zheyuan Liu, Yidan Hu, Aisha Aseeri, Depeng Li and Rui Zhang

* **FProbe: the Flow-centric Detection and Large-scale Measurement of Browser Fingerprinting**

Rui Zhao

* **INSPIRE: Instance-level Privacy-preserving Transformation for Vehicular Camera Videos**Zhouyu Li, Ruozhou Yu, Anupam Das, Shaohu Zhang, Huayue Gu, Xiaojian Wang, Fangtong Zhou, Aafaq Sabir, Dilawer Ahmed and Ahsan Zafar

**Invited Talks 1: Emerging Networking Technologies**Chair: Prof Aris Leivadeas, École de technologie supérieure

* **Value Trees: Multi-hop and Asynchronous Economic Transactions in Distributed Systems**Puming Fang and Tilman Wolf
* **Autonomous Network Assurance in Intent Based Networking: Vision and Challenges**

Aris Leivadeas and Matthias Falkner

##### **Per-flow Packet Loss Measurement without Probing**

Shakir Mahmood and Muhammad Shahzad

* **A Self-distributing System Framework for the Computing Continuum**Roberto Rodrigues Filho, Renato Dias, João Seródio, Barry Porter, Fábio M. Costa, Edson Borin and Luiz Bittencourt

##### **On The Harmful Effects of Active Network Probing**

Alamin Mohammed, Theo Karagioules, Emir Halepovic, Shangyue Zhu and Aaron Striegel

**15:00 – 15:30 Coffee break**

## 13:30-15:00

## Panel I: All Together Now in North America: It Takes Academia, Industry, and Government to Align for the Next Generation of Networks Panelists: Ali Khayrallah (Ericsson Research), Tommaso Melodia, (Northeastern University), Venki Ramaswamy (The MITRE Corporation)

Moderator: Eric Burger (Virginia Tech and Next G Alliance Technical Program Director)

## 15:30-17:30

#### **Session 3: Emerging Topics in Networking**

#### Chair: Prof. Ruozhou Yu, NCSU

* **ESDI: Entanglement Scheduling and Distribution in the Quantum Internet**

Huayue Gu, Ruozhou Yu, Zhouyu Li, Xiaojian Wang and Fangtong Zhou

##### **PLR: An In-Network Proactive Loss Recovery Scheme for Named Data Networking**

##### Yuxin Chen, Jiayu Yang, Xuanbo Huang, Jiangping Han, Bobo Wang, Jian Li and Kaiping Xue

##### **Game-theoretic Approach for Traffic Scheduling in Large-scale Deterministic Networking**

Weiqian Tan, Binwei Wu, Shuo Wang, Guiyu Zhang, Luying Bai and Tao Huang

* **Delay Fairness in 5G Networks with SD-RAN**

Fidan Mehmeti and Wolfgang Kellerer

* **CPIMAC: MEC-assisted Safety Message Dissemination Scheme Based on the Traffic Prediction at Intersections**

Bingyi Liu, Jiwei Xu, Weizhen Han, Xun Shao, Weiyang Chen and Zhi Liu

**Session 4: IoT and CPS**Chair: Dr. Sudipta Saha, IIT

* **PAROS: The Missing "Puzzle" in Smart Home Router Operating Systems**

Keyang Yu and Dong Chen

* **LiteCast: Flexible Scalable and Uniform Local Data-Sharing in Real-Time**

Jagnyashini Debadarshini and Sudipta Saha

* **SkABNet: A Data Structure for Efficient Discovery of Streaming Data for IoT**

Philipp Kisters, Heiko Bornholdt and Janick Edinger

* **TwinSync: A Digital Twin Synchronization Protocol for Bandwidth-limited IoT Applications**

Deepti Kalasapura, Jinyang Li, Shengzhong Liu, Yizhuo Chen, Ruijie Wang, Tarek Abdelzaher, Matthew Caesar, Joydeep Bhattacharyya, Jae Kim, Guijun Wang, Greg Kimberly, Josh Eckhardt and Denis Osipychev

* **Underprovisioned GPUs: On Sufficient Capacity for Real-Time Mission-Critical Perception**

Yigong Hu, Ila Gokarn, Shengzhong Liu, Archan Misra and Tarek Abdelzaher

#### **Invited Talks 2: Wireless Networking**

Chair: Dr. Fan Liang, Sam Houston State Univ

* **Towards Trajectory Prediction-based UAV Deployment in Smart Transportation Systems**Fan Liang, Xing Liu, Nuri Alperen Kose, Kubra Gundogan and Wei Yu

##### **Addressing Concept Drift of Dynamic Traffic Environments through Rapid and Self-Adaptive Bandwidth Allocation**

##### Lihua Ruan and Elaine Wong

##### **Environmentally-Aware Robotic Vehicle Networks Routing Computation for Last-mile Deliveries**

##### Chengyi Qu, Rounak Singh, Sharan Srinivas and Prasad Calyam

##### **An efficient and fair wireless resource allocation scheme for LTE and Wi-Fi over unlicensed bands**

##### Ramin Yarinezhad and Eylem Ekici

## 18:00-19:00

#### **1-Hour Cocktail/Happy-Hour event (free for all ICCCN attendees) – Nalea Terrace (Pool) – 3rd Floor**

## 19:00-20:30

#### **Conference Reception – Nalea Terrace (Pool) – 3rd Floor**

**July 25 (Tuesday)**

## 8:30-9:30

**Keynote II: Complexities of as-a-Service Edge-to-Cloud Platform**

Speaker: Puneet Sharma (Hewlett Packard Labs)

Chair: Krishna Kant

**9:30 – 10:00 Coffee break**

## 10:00-12:00

**Session 5: In-network Processing**

Chair: Prof. Sangheon Pack, Korea Univ

##### **Traffic-Aware In-Network Aggregation Placement for Multi-Tenant Distributed Machine Learning**

Heewon Kim, Hochan Lee and Sangheon Pack

* **How Can Equitable Peering Be Achieved Between ISPs and Content Providers?**Ali Nikkhah and Scott Jordan

##### **A Data and Model Parallelism-based Distributed Deep Learning System in a Network of Edge Devices**

Tanmoy Sen and Haiying Shen

##### 

##### **Improved Conflict-Based Search for the Virtual Network Embedding Problem**

Yi Zheng, Srivatsan Ravi, Erik Kline, Lincoln Thurlow, Sven Koenig and T. K. Satish Kumar

* **Towards Adversarial-Resilient Deep Neural Networks for False Data Injection Attack Detection in Power Grids**

Jiangnan Li, Yingyuan Yang, Jinyuan Sun, Kevin Tomsovic and Hairong Qi

**Session 6: Security II --- Authentication and Detection**

Chair: Aaron Striegel, Univ of

Notre Dame

* **Hyron: A New Approach for Automating the Network ACL Delivery Pipeline**

Jacob Taylor, Ngoc Le, Joonsang Baek and Willy Susilo

* **Predictable Internet Clients and In-Switch Deep Packet Inspection**

Sahil Gupta, Devashish Gosain, Minseok Kwon and H.B. Acharya

##### **IoT Sentinel: Correlation-based**

##### **Attack Detection, Localization,**

##### **and Authentication in IoT**

##### **Networks**

##### Dianshi Yang, Abhinav Kumar, Stuart Ray, Wei Wang and Reza Tourani

##### **ImCT: A Feasible Scheme for Deploying Implicit Certificates with Certificate Transparency in IoT**

##### Huiqing Wan, Qiongxiao Wang, Yajun Teng, Cunqing Ma, Jingqiang Lin and Mingyu Wang

* **Depicting Instant Messaging Encrypted Traffic Characteristics through an Empirical Study**Zolboo Erdenebaatar, Riyad Alshammari, Biswajit Nandy, Nabil Seddigh, Marwa Elsayed and Nur Zincir-Heywood

**Invited Talks 3: Wireless and Mobile Sensing**

Chair: Dr. Wenye Wang, NCSU

* **Towards Multi-Person Gesture Recognition using Commodity Wi-Fi**

Xiaozhuang Liu, Zhenxing Niu and Wenye Wang

* **GRU-based Neural Architecture Search for Finger-vein Identification**

Shaojiang Deng, Chao Fan, Yantao Li, Huafeng Qin, Mounim A. El-Yacoubi and Gang Zhou

* **Beam Profiling and Beamforming Modeling for mmWave NextG Networks**

Efat Samir, Sahar Zargarzadeh, Chunsheng Xin, Hongyi Wu, Peng Jiang, Joao Santos, Jacek Kibilda and Aloizio Pereira da Silva

* **Stealthy Backdoor Attack on RF Signal Classification**

Tianming Zhao, Zijie Tang, Tianfang Zhang, Huy Phan, Yan Wang, Cong Shi, Bo Yuan and Yingying Chen

* **mmLock: User Leaving Detection against Data Theft via High-Quality mmWave Radar Imaging**

Jiawei Xu, Ziqian Bi, Amit Singha, Tao Li, Yimin Chen and Yanchao Zhang

**15:00 – 15:30 Coffee break**

## 13:30-15:00

#### **Panel II: Quantum Networking: Synergistic Future**

#### Panelists: Allyson O’Brien (Information Innovation Office, Defense Advanced Research Projects Agency), Corey McClelland (Qubitekk, Inc), Almadena Chtchelkanova (National Science Foundation), Neena Imam (Nvidia) Moderator: Nageswara Rao (Oak Ridge National Laboratory)

## 15:30-17:30

**Session 7: Network Architecture and Evaluation I** Chair: Prof. Miki Yamamoto, Kansai Univ

##### **Cozy: A CPU-aware BuildinBlock for Congestion Control**

##### Hao Liu, Wenxin Li, Xin He, Song

Zhang and Keqiu Li

* **A Novel ROS2 QoS Policy-enabled Synchronizing Middleware for Co-simulation of Heterogeneous Multi-Robot Systems**Emon Dey, Mikolaj Walczak, Mohammad Saeid Anwar, Nirmalya Roy, Jade Freeman, Timothy Gregory, Niranjan Suri and Carl Busart
* **Early Marking for Controllable Maximum Queue Length in Data Center Networks**

##### Wentao Wang, Jiangping Han, Rui Zhuang, Kaiping Xue, Qibin Sun and Jun Lu

##### **Evaluating the Joint Use of**

##### **Alternate Internet Delivery**

##### **Models in Deterministic Rural**

##### **Networks** Esther Max-Onakpoya

##### and Corey Baker

**Session 8: Security III --- Network Security**Chair: Dr. Tianming Zhao, Univ of Dayton

* **DeBGP: Decentralized and Efficient BGP Hijacking Prevention System**

Jiang Li, Jiahao Cao, Yuan Yang, Zhuotao Liu, Qi Li, Yangyang Wang, Zili Meng, Renjie Xie and Mingwei Xu

* **VTBC: Privatizing the Volume and Timing of Transactions for Blockchain Applications**

Trevor Miller, Bobby Alvarez and Thang Hoang

* **Moving Target Defense for Service-oriented Mission-critical Networks**

Doganalp Ergenc, Florian Schneider, Peter Kling and Mathias Fischer

* **Understanding the Security and Performance of the Web Presence of Hospitals: A Measurement Study**

Mohammed Al Kinoon, Abdulrahman Alabduljabbar, Hattan Althebeiti, Rhongho Jang, Daehun Nyang and David Mohaisen

#### **Invited Talks 4: Machine Learning for Networking**

Chair: Prof. Song Fu, Univ of North Texas

* **Data-Driven Next-Generation Wireless Networking: Embracing AI for Performance and Security**

Jiahao Xue, Zhe Qu, Shangqing Zhao, Yao Liu and Zhuo Lu

* **Machine Learning Based Intelligent Routing for VDTNs**

Shiyi Liu, Haiying Shen, Brian Smith and Volker Fessmann

* **Quantum Assisted Scheduling Algorithm for Federated Learning in Distributed Networks**

Xinliang Wei, Lei Fan, Yuanxiong Guo, Yanming Gong, Zhu Han and Yu Wang

* **DeepHealth: Geospatial and ML-based Approach to Identify Health Disparities and Determinants for Improving Pandemic Health Care**Jinwei Liu, Rui Gong, Long Cheng and Richard Alo

## 19:00-21:30

#### **Conference Baquet – Nalea Terrace (Pool) – 3rd Flopr**

## July 26 (Wednesday)

## 8:30-9:30

#### **Keynote III: Compromise/Malware Detection vs. Avoidance for Low-End Embedded/Smart/IoT Devices**

Speaker: Gene Tsudik (University of California, Irvine)

Chair: Wenjing Lou

**9:30 – 10:00 Coffee break**

## 10:00-12:00

#### **Session 9: Network Architecture and Evaluation II**

Chair: Prof. Yuchen Liu, NCSU

* **Outdoor Millimeter-Wave Picocell Placement using Drone-based Surveying and Machine Learning**

Ian McDowell, Rahul Bulusu, Hem Regmi and Sanjib Sur

* **E-App: Adaptive mmWave Access Point Planning with Environmental Awareness in Wireless LANs**

Yuchen Liu, Mingzhe Chen, Dongkuan Xu, Zhaohui Yang and Shangqing Zhao

* **A Quinary Coding and Matrix Structure-based Channel Hopping Algorithm for Blind Rendezvous in Cognitive**

**Radio Networks**

Qinglin Liu, Zhiyong Lin, Zongheng Wei, Jianfeng Wen, Congming Yi and Hai Liu

##### **CPS: A Multipath Scheduling Algorithm for Low-Latency Applications in 5G Edge Networks**

##### Baosen Zhao, Wanghong Yang, Wenji Du, Yongmao Ren, Jianan Sun and Xu Zhou

**Session 10: Mobile Applications and Sensing**Chair: Prof. M. Cenk Gursoy, Syracuse Univ

##### **Age-Energy Trade-off in Status Update System with Wake-up Control**

##### Jiajie Huang and Jie Gong

##### **An Enhanced Sensing Method for MmWave Communication System** Shiwen He, Kangli Cai, Shiyue Huang, Zhenyu An, Wei Huang and Ning Gao

* **Deep Reinforcement Learning-based Beamforming Design in ISAC-assisted Vehicular Networks**

Yiyang Liu, Xinmin Li, Yi Huang, Xuhao Zhang and Liang Zhao

* **Reliability-Oriented Designs in UAV-assisted NOMA Transmission with Finite Blocklength Codes and Content Caching**

Yang Yang and M. Cenk Gursoy

**Session 11: Social Networks**

Chair: Prof. Maurantonio Caprolu, Hamad Bin Khalifa Univ

* **On Designing Bid-AugmentedRetrieval Models for Online Advertising in Social Networks**

Xinwei Wan, Shuo Yang, Shuai Li, Chao Yan, Zhenzhe Zheng, Lan Xu, Lingling Yao, Fan Wu, Guihai Chen and Jie Jiang

* **Are We All in a Truman Show? Spotting Instagram Crowdturfing through Self-Training**

Pier Paolo Tricomi, Sousan Tarahomi, Christian Cattai, Francesco Martini and Mauro Conti

* **Characterizing the 2022- Russo-Ukrainian Conflict Through the Lenses of Aspect-Based Sentiment Analysis: Dataset, Methodology, and Key Findings**

Maurantonio Caprolu, Alireza Sadighian and Roberto Di Pietro

* **Social Equality-aware Resource Allocation for Post-Disaster Communication Restoration**

Jianqing Liu, Shangjia Dong, Thomas Morris and Yuguang Fang

* **QESched: QoE-aware and Energy-efficient Scheduling for Real-time Danmu Video Streaming in Wi-Fi Networks**

Yibin Shen, Chi Wang, Yujin Xiang, Xinhe Li and Wenjia Wu

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#### **Invited Talks 5: Security**

Chair: Prof. Ning Zhang, WashU, Washington Univ - St. Louis

* **Automatic Synthesis of Network Security Services: A First Step**

Lei Xu, Yangyong Zhang, Phakpoom Chinprutthiwong and Guofei Gu

##### **Protection of Network Security Selector Secrecy in Outsourced Network Testing**

##### Sultan Alasmari, Weichao Wang, Aidong Lu and Yu Wang

##### **Improving Machine Learning Robustness via Adversarial Training**

##### Long Dang, Thushari Hapuarachch, Kaiqi Xiong and Jing Lin

##### **Location Inference under Temporal Correlation**

##### Yukun Dong, Yidan Hu, Aisha Aseeri, Depeng Li and Rui Zhang

##### **P3: A Privacy-Preserving Perception Framework for Building Vehicle-Edge Perception Networks Protecting Data Privacy**

##### Tianyu Bai, Danyang Shao, Ying He, Song Fu and Qing Yang

**15:00 – 15:30 Coffee break**

## 13:30-15:00

#### **Poster Session I:**

Chair: Dr. Shuhui Yang, Purdue Univ - Northwest

* **Residual Attention Assisted Calibrated Beam Training for mmWave Communication Systems**

Jihyung Kim, Soyoung Yoo and Junghyun Kim

* **Improving Fairness of NDN Congestion Control from Resource Pooling Perspective**

Kai Sakamoto, Yusaku Hayamizu and Miki Yamamoto

* **Iterative Resolution with IPv6 Packets Failing**

Momoka Yamamoto, Jin Nakazato, Manabu Tsukada and Hiroshi Esaki

* **A Gateway Proxy with ECN Buffer Control for Inter-Datacenter Congestion Control**

Keita Aoki and Miki Yamamoto

* **Hardware Controller and Simulator for log2N Switching Fabrics**

Marek Michalski

#### **Poster Session II:**

Chair: Dr. Falko Dressler, TU-Berlin

* **Service Model using Smart Device in Maintenance of Surveillance CCTV**

Kwan Woo Yu and Byung Mun Lee

* **A lightweight cooperative trust model for IoV**

Runbo Su, Yujun Jin and Ye-Qiong Song

* **Study on remote identification and integrated information management technology for unmanned aerial vehicles**

Suna Choi

* **Inferring Sensitive User Information Through Biosignals Using Deep Learning** Arun Sarma and Geethapriya Thamilarasu
* **An Accurate Graph Generative Model with Tunable Features**

##### Takahiro Yokoyama, Yoshiki Sato, Sho Tsugawa and Kohei Watabe

**ICCCN 2023 Workshop Program Overview**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **July 26, 2023 (Wednesday) - Workshops** | | | | |
| 1:30 - 3:00 | Meeting Room KOU (2nd FL)  IoTEF | Meeting Room  ELUA (basement)    BDMLN |  |  |
| 3:00 - 3:30 | Coffee break | | | |
| 3:30 - 5:30 | Meeting Room KOU (2nd FL)  IoTEF | Meeting Room ELUA (basement)  BDMLN | Meeting Room EHA (basement)  SmartCityCom | Meeting Room KOLU (basement)  IoTSPT |

### IoTEF Workshop

### (RM: KOU)

Chair: Wei Chang (Saint Joseph's University), Jiacheng Shang (Montclair State University)

##### **1:30 – 3:00**

##### **IoTEF 1:**

##### Session Chair: Jiacheng Shang (Montclair State University)

* **Explainable AI-based Intrusion Detection Systems for Cloud and IoT**

Maria Gaitan-Cardenas, Mahmoud Abdelsalam, Kaushik Roy (North Carolina A&T State University)

* **aDBF: an autonomous electromagnetic noise filtering mechanism for industrial environments**

Francisco J. Martinez, Angel C. Herrero, Julio A. Sanguesa, Piedad Garrido Picazo (University of Zaragoza), Carlos T. Calafate (Universitat Politecnica de Valencia)

* **A Deep Learning Approach for ECG Authentication on Implantable Medical Devices**

Geethapriya Thamilarasu, Mustafa Mahjeed (University of Washington Bothell, Nicole Johnson (Northeastern University), Christian Alfonso (Seattle Pacific University)

##### **IoTEF 2:**

##### Session Chair: Jiacheng Shang (Montclair State University)

* **Location Verification of Crowd-Sourced Sensors**

Christopher Kitras, Philip Lundrigan, Carter Pollan, Kyle Myers (Brigham Young University), Camile Wirthlin (Utah State University)

**BDMLN Workshop (RM: ELUA)**

Chair: Yalong Wu (University of Houston-Clear Lake), Hanlin Zhang (Qindao University)

**1:30 – 3:00**

##### **BDMLN 1:**

##### Session Chair: Hanlin Zhang (Qindao University)

* **Cost-Effective Joint Establishment of Fronthaul and Virtual Base Stations in a Stochastic C-RAN**

Yunyi Wu, Yongbing Zhang (University of Tsukuba)

* **SecureGAN: Secure Three-Party GAN Training**

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

* **A Systematic Approach for Temporal Traffic Selection Across Various Applications**

Nazia Sharmin, Jaime Acosta, Christopher Kiekintveld (University of Texas El Paso)

* **SPAM SMS Classification Using Machine Learning**

Nahid Ebrahimi Majd, Mandar Shivaji Hanchate (California State University San Marcos)

* **Ransomware Classification Using Machine Learning**

Nahid Ebrahimi Majd, Torsha Mazumdar (California State University San Marcos)

* **A Fine-Grained and Lightweight Secure Data Sharing Scheme for the IoT**

Yanxin Liu, Qianqian Su, Zhuo Wang (Qingdao University) Guobin Xu (Morgan State University)

**Coffee Break: 3:00 – 3:30**

**3:30 – 5:30**

##### **BDMLN 2:**

Session Chair: Jie Lian (Shanghai Normal University)

* **An Improved Fire and Smoke Detection Method Based on YOLOv7**

Jie Lian, Xinyu Pan (Shanghai Normal University)

* **P-A Scheme: A Robust and Lightweight Wi-Fi Device Identification Approach**

Shihao Li, Qian Lu, Zaikai Yang (Qingdao University)

* **Deep Learning-based Transceiver with One-bit ADC over Fading Channel**

Metasebia D. Gemeda, S. Han, Ameha T. Abebe, Chung Kang (Korea University)

### SmartCityCom Workshop (RM: EHA)

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

**3:30 – 5:30**

##### **SmartCityCom 1:**

Session Chair: Shuhui Yang (Purdue University Northwest)

* **A Secure Federated Learning Approach to Smart Microgrid Stability Prediction**

Abtahi Reza, Anway Bose, Li Bai (Temple University)

* **Cost-Effective Offloading Strategies for UAV Contingency Planning in Smart Cities**

Ching-Chi Lin (TU Dortmund), Bruno Chianca (Ecole Nationale de l’Aviation Civile), Leonard David Bereholschi Jian-Jia Chen (TU Dortmund), Guthemberg Silvestre (Ecole Nationale de l’Aviation Civile)

* **Multigraph-based Routing in Delay Tolerant Networks: An Alternative to Contact Graph Routing**

Alan Hylton (NASA), Michael Moy (Colorado State University), Robert Short, Jacob Cleveland (NASA)

* **Building Identification Using Smartphone Sensors and a Map**

Jihoon Lee (KAIST) Kyungmin Go (Pai Chai University), Myungchul Kim (KAIST)

* **Camera-based Vehicle-to-Vehicle Visible Light Communication – A Software-Only Solution for Vehicle Manufacturers**

Michael Plattner, Gerald Ostermayer (University of Applied Sciences Upper Austria)

* **Experimental Analysis of Phase Error in Centralized and Distributed SDR Systems**

Mahmoud Badi, Dinesh Rajan, Joseph Camp (Southern Methodist University)

### IoTSPT Workshop (RM: KOLU)

Chair**:** Geethapriya Thamilarasu (University of Washington Bothell)

**3:30 – 5:30**

##### **IoTPST 1:**

Session Chair: Geethapriya Thamilarasu (University of Washington Bothell)

* **One-class Classification Using Autoencoder Feature Residuals for Improved IoT Network Intrusion Detection**

Brian Lewandowski and Randy Paffenroth (Worcester Polytechnic Institute)

* **Analysis of Evil Twin, Deauthentication, and Disassociation Attacks on Wi-Fi Cameras**

Zachary Neal and Kewei Sha (University of Houston-Clear Lake)

* **Secure and Cost Effective IoT Authentication and Data Storage Framework using Blockchain NFT**

Nahid Ebrahimi Majd and Mike Sharko (California State University San Marcos)

* **Two-Step Feature Selection Technique for Secure and Lightweight Internet of Things**

So-Eun Jeon, Ye-Sol Oh, Ye-Seul Kil, Yeon-Ji Lee and Il-Gu Lee (Sungshin Women's University)

* **DNS++: Dynamic Name Resolution with Homomorphic Encryption Based Privacy**

Francesco Tusa (University of Westminster), David Griffin and Miguel Rio (University College London)

**Closing**

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