**ICCCN 2023**

**The 32nd International Conference on**

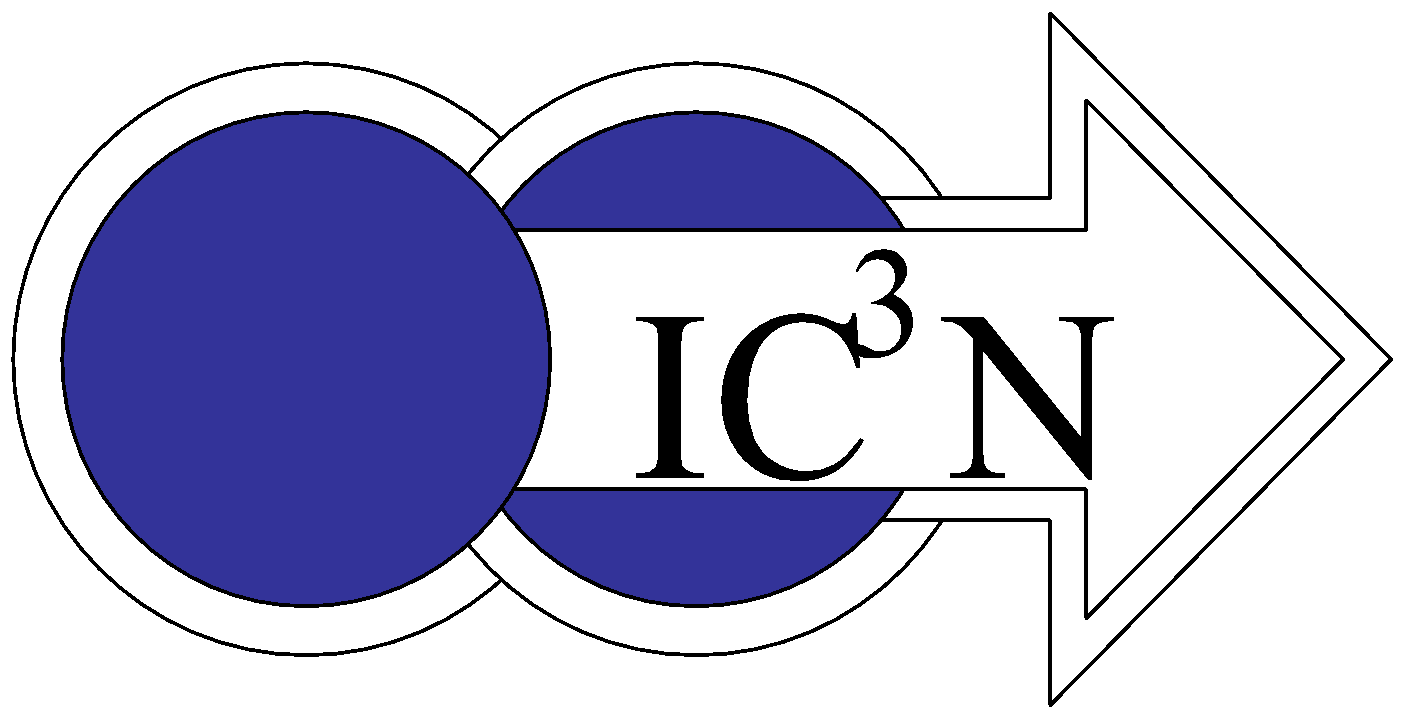
**Computer Communications and Networks**

**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) | |

ICCCN 2023 Program Overview

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| **July 24, 2023 (Monday)** |
| |  |  | | --- | --- | | 7:30 | Registration Open (KOU Ballroom) | |
| |  |  | | --- | --- | | 8:15-8:30 | Opening Remarks  Room: KOU Ballroom | |
| |  |  | | --- | --- | | 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 | |
| |  |  | | --- | --- | | 9:30-10:00 | Coffee break | |
| |  |  |  |  | | --- | --- | --- | --- | | 10:00-12:00 | Session 1  Edge and Cloud Computing  (KOU) | Session 2  Security I --- Machine Learning for Security  (ELUA) | Invited Talks 1: Emerging Networking Technologies  (EHA) | |
| |  |  | | --- | --- | | 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 | |
| |  |  | | --- | --- | | 15:00-15:30 | Coffee break | |
| |  |  |  |  | | --- | --- | --- | --- | | 15:30-17:30 | Session 3: Emerging Topics in Networking  (KOU) | Session 4:  IoT and CPS  (ELUA) | Invited Talks 2: Wireless Networking  (EHA) | | 18:00 – 19:00 | 1-Hour Cocktail event (free for all ICCCN attendees) – Nalea (Pool) | | | | 19:00 – 20.30 | Reception – Nalea (Pool) | | | |

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| **July 25, 2023 (Tuesday)** |
| |  |  | | --- | --- | | 8:00 | Registration Open (KOU Ballroom) | |
| |  |  | | --- | --- | | 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 | |
| |  |  | | --- | --- | | 9:30-10:00 | Coffee break | |
| |  |  |  |  | | --- | --- | --- | --- | | 10:00-12:00 | Session 5:  In-Network Processing  (KOU) | Session 6: Security II ---Authentication and Detection  (ELUA) | Invited Talk 3: Wireless and Mobile Sensing  (EHA) | |
| |  |  | | --- | --- | | 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 | |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | 15:00-15:30 | Coffee break | | | | | 15:30-17:30 | Session 7:  Network  Architecture and  Evaluation I  (KOU) | Session 8: Security III --- Network Security  (ELUA) | Invited Talks 4: Machine Learning for Networking  (EHA) | | 19:00-21:30 | Banquet – Nalea (Pool) | | | | |

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| **July 26, 2023 (Wednesday)** |
| |  |  | | --- | --- | | 8:00 | Registration Open (KOU Ballroom) | |
| |  |  | | --- | --- | | 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 | |
| |  |  | | --- | --- | | 9:30-10:00 | Coffee break | |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | 10:00-12:00 | Session 9:  Network Architecture and Evaluation II  (KOU) | Session 10: Mobile Application and Sensing  (ELUA) | Session 11:  Social  Networks  (EKOLU) | Invited Talks 5:  Security  (EHA) | | | 12:00-13:30 | Lunch break (lunch is not provided) | | | | | | **Workshops and Posters** | | | | | | | 13:30-15:00 | IoT in Emerging Fields (IoTEF)  (KOU) | Big Data and Machine learning for Networking (BDMLN)  (ELUA) | Poster  Session I  (EHA) | Poster  Session II  (EKOLU) | | 15:00-15:30 | Coffee Break | | | | | | 15:30-17:30 | IoT in Emerging Fields  (IoTEF)  (KOU) | Big Data and Machine learning for Networking (BDMLN)  (ELUA) | Smart City Communication and Network (SmartCityCom)  (EHA) | Security, Privacy , and Trust for IoT (IoTSPT)  (KOLU) | | |

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