IEEE INFOCOM IEEE International Conference on Computer Communications
1-4 May 2017 // Atlanta, GA, USA

Technical Program

Tuesday, May 2, 11:00 - 12:30

Datacenter Networks I

Room: Georgia 2-3
Chair: Jianzhong Li (Harbin Institute of Technology, P.R. China)

Multi-Tenant Multi-Objective Bandwidth Allocation in Datacenters Using Stacked Congestion Control
Chen Tian (Nanjing University, P.R. China); Ali Munir and Alex X. Liu (Michigan State University, USA); Yingtong Liu, Yanzhao Li and Jiajun Sun (Nanjing University, P.R. China); Fan Zhang (Huawei Technologies, Hong Kong); Gong Zhang (Huawei Research, P.R. China)

Survivable and Bandwidth-Guaranteed Embedding of Virtual Clusters in Cloud Data Centers
Ruozhou Yu, Guoliang Xue and Xiang Zhang (Arizona State University, USA); Dan Li (Tsinghua University, P.R. China)

One More Queue is Enough: Minimizing Flow Completion Time with Explicit Priority Notification
Yuanwei Lu (University of Science and Technology of China & Microsoft Research Asia, P.R. China); Guo Chen (Microsoft Research Asia, P.R. China); Kun Tan (Microoseft Research Asia, P.R. China); Layong Luo (Microsoft, P.R. China); Yongqiang Xiong (Microsoft Research Asia, P.R. China); Xiaoliang Wang (Nanjing University, P.R. China); EnHong Chen (University of Science and Technology, P.R. China)

CoCloud: Enabling Efficient Cross-Cloud File Collaboration based on Inefficient Web APIs
Jinlong E and Yong Cui (Tsinghua University, P.R. China); Peng Wang (Carnegie Mellon University, USA); Zhenhua Li and Chaokun Zhang (Tsinghua University, P.R. China)

Cloud Computing I

Room: Georgia 4-5
Chair: Feng Qian (Indiana University, USA)

Cluster Fair Queueing: Speeding up Data-Parallel Jobs with Delay Guarantees
Chen Chen, Wei Wang, Shengkai Zhang and Bo Li (Hong Kong University of Science and Technology, Hong Kong)

Scheduling Jobs across Geo-Distributed Datacenters with Max-Min Fairness
Li Chen, Shuhao Liu and Baochun Li (University of Toronto, Canada); Bo Li (Hong Kong University of Science and Technology, Hong Kong)

BAC: Bandwidth-Aware Compression for Efficient Live Migration of Virtual Machines
Chunguang Li, Dan Feng, Yu Hua and Wen Xia (Huazhong University of Science and Technology, P.R. China); Leihua Qin (Huazhong University of Science & Technology, P.R. China); Yue Huang and Yukun Zhou (Huazhong University of Science and Technology, P.R. China)

Malicious Co-Residency on the Cloud: Attacks and Defense
Ahmed Fathy Atya, Zhiyun Qian and Srikanth V. Krishnamurthy (University of California, Riverside, USA); Tom La Porta and Patrick McDaniel (Pennsylvania State University, USA); Lisa Marvel (Army Research Laboratory, USA)

Security in Cloud Computing

Room: Georgia 6
Chair: Baek-Young Choi (University of Missouri - Kansas City, USA)

When Gene Meets Cloud: Enabling Scalable and Efficient Range Query on Encrypted Genomic Data
Wenhai Sun (Virginia Tech, USA); Ning Zhang (Virginia Tech & Raytheon Company, USA); Wenjing Lou (Virginia Tech & National Science Foundation, USA); Thomas Hou (Virginia Tech, USA)

CASHEIRS: Cloud Assisted Scalable Hierarchical Encrypted Based Image Retrieval System
Xin Li, Qinghan Xue and Mooi Choo Chuah (Lehigh University, USA)

RSPP: A Reliable, Searchable and Privacy-Preserving e-Healthcare System for Cloud-Assisted Body Area Networks
Lei Yang (The University of Kansas, USA); Qingji Zheng and Xinxin Fan (Bosch Research and Technology Center, USA)

Learning Privately: Privacy-Preserving Canonical Correlation Analysis for Cross-Media Retrieval
Qian Wang, Shengshan Hu, Minxin Du and Jingjun Wang (Wuhan University, P.R. China); Kui Ren (State University of New York at Buffalo, USA)

Theory for Social Networks I

Room: Georgia 7-8
Chair: Wing Cheong Lau (The Chinese University of Hong Kong, Hong Kong)

Motif Clustering and Overlapping Clustering for Social Network Analysis
Pan Li (University of Illinois Urbana-Champaign, USA); Hoang Dau and Gregory J. Puleo (University of Illinois at Urbana-Champaign, USA); Olgica Milenkovic (UIUC, USA)

An Efficient Randomized Algorithm for Rumor Blocking in Online Social Networks
Guangmo Tong (University of Texas at Dallas, USA); Weili Wu (UT Dallas, USA); Ling Guo (Renmin University of China, P.R. China); Deying Li (Renmin University, P.R. China); Cong Liu (The University of texas at Dallas, USA); Bin Liu (Ocean University of China, P.R. China); Ding-Zhu Du (University of Texas, Dallas, USA)

Incentivizing Strategic Users for Social Diffusion: Quantity or Quality?
Jungseul Ok, Jinwoo Shin and Yung Yi (KAIST, Korea)

Unveiling Polarization in Social Networks: A Matrix Factorization Approach
Md Tanvir A Amin (University of Illinois at Urbana-Champaign, USA); Charu Aggarwal (IBM TJ Watson Research Center, USA); Shuochao Yao (University of Illinois Urbana-Champaign, USA); Tarek Abdelzaher (University of Illinois, Urbana Champaign, USA); Lance Kaplan (US Army Research Laboratory, USA)

Sensor Networks I

Room: Georgia 9-10
Chair: Stefano Basagni (Northeastern University, USA)

Distributed Non-Structure Based Data Aggregation for Duty-Cycle Wireless Sensor Networks
Quan Chen (Harbin Institute of Technology, P.R. China); Hong Gao (University of Harbin Institute Technology, P.R. China); SIyao Cheng and Jianzhong Li (Harbin Institute of Technology, P.R. China); Zhipeng Cai (Georgia State University, USA)

Joint Sensing Duty Cycle Scheduling for Heterogeneous Coverage Guarantee
Kin Sum Liu (Stony Brook University, USA); Tyler Mayer (Stony Brook University & Stony Brook University, USA); Hao Tsung Yang (Stony Brook University, USA); Esther Arkin (State University of New York at Stony Brook, USA); Jie Gao (Stony Brook University, USA); Mayank Goswami (Max-Planck Institute for Informatics, Germany); Matthew P Johnson (City University of New York, USA); Nirman Kumar (University of Memphis, USA); Shan Lin (Stony Brook University, USA)

Multihop Calibration for Mobile Sensing: k-hop Calibratability and Reference Sensor Deployment
Kaibo Fu, Wei Ren and Wei Dong (Zhejiang University, P.R. China)

Photo Crowdsourcing for Area Coverage in Resource Constrained Environments
Yibo Wu (The Pennsylvania State University, USA); Yi Wang (Pennsylvania State University, USA); Guohong Cao (The Pennsylvania State University, USA)

Wireless Access Networks

Room: Georgia 11-12
Chair: Dimitrios Koutsonikolas (University at Buffalo, SUNY, USA)

Perceiving Accurate CSI Phases with Commodity WiFi Devices
Yiwei Zhuo, Hongzi Zhu and Hua Xue (Shanghai Jiao Tong University, P.R. China); Shan Chang (Donghua University, P.R. China)

STRALE: Mobility-Aware PHY Rate and Frame Aggregation Length Adaptation in WLANs
Seongho Byeon, Kangjin Yoon, Changmok Yang and Sunghyun Choi (Seoul National University, Korea)

Enhancing Wireless Performance Using Reflectors
Sihui Han and Kang G. Shin (University of Michigan, USA)

Harnessing Hardware Defects for Improving Wireless Link Performance: Measurements and Applications
Alireza Ameli Renani, Jun Huang, Guoliang Xing and Abdol Esfahanian (Michigan State University, USA)

Tuesday, May 2, 14:00 - 15:30

Optical Networks and Traffic Engineering

Room: Georgia 2-3
Chair: Xiaojun Cao (Georgia State University, USA)

Combinatorial Approach for Network Switch Design in Data Center Networks
Ganesh Chennimalai Sankaran (Indian Institute of Technology Madras & HCL Cisco Offshore Development Center, India); Krishna M. Sivalingam (Indian Institute of Technology Madras, India)

Competitive Analysis for Online Scheduling in Software-Defined Optical WAN
Su Jia (Stony Brook University, USA); Xin Jin (Johns Hopkins University, USA); Golnaz Ghasemiesfeh, Jiaxin Ding and Jie Gao (Stony Brook University, USA)

ABSORB: Autonomous Base Station with Optical Reflex Backhaul to Adapt to Fluctuating Demand
Yu Nakayama (University of Tokyo); Takuya Tsutsumi and Kazuki Maruta (Neko 9 Laboratories); Kaoru Sezaki (University of Tokyo, Japan)

Expect the Unexpected: Sub-Second Optimization for Segment Routing
Steven Gay (UCLouvain, Belgium); Renaud Hartert (Google, Switzerland); Stefano Vissicchio (University College London, United Kingdom)

Resource Management in Cloud Computing I

Room: Georgia 4-5

Addressing Job Processing Variability Through Redundant Execution and Opportunistic Checkpointing: A Competitive Analysis
Huanle Xu (Dongguan University of Technology, P.R. China); Gustavo de Veciana (The University of Texas at Austin, USA); Wing Cheong Lau (The Chinese University of Hong Kong, Hong Kong)

Handling Flash Deals with Soft Guarantee in Hybrid Cloud

Yipei Niu (Huazhong University of Science & Technology, P.R. China); Fangming Liu (Huazhong University of Science and Technology, P.R. China); Xincai Fei (Huazhong University of Science & Technology, P.R. China); Bo Li (Hong Kong University of Science and Technology, Hong Kong)

Power of Redundancy:Designing Partial Replication for Multi-tier Applications

Robert Birke (IBM Zurich Research Laboratory, Switzerland); Zhan Qiu (Imperial College London, United Kingdom); Juan F Perez (Universidad del Rosario & ACEMS, Colombia); Mathias Björkqvist (IBM Zurich Research Lab, Switzerland); Lydia Y. Chen (IBM Zurich Research Laboratory, Switzerland)

Discovering Valuations and Enforcing Truthfulness in a Deadline-Aware Scheduler

Zhe Huang (AT&T Lab Research, USA); S. Matthew Weinberg, Liang Zheng and Mung Chiang (Princeton University, USA); Carlee Joe-Wong (Carnegie Mellon University, USA)

Privacy

Room: Georgia 6
Chair: Mahesh K Marina (The University of Edinburgh, United Kingdom)

Location-Privacy-Aware Review Publication Mechanism for Local Business Service Systems

Xu Zheng and Zhipeng Cai (Georgia State University, USA); Jianzhong Li (Harbin Institute of Technology, P.R. China); Hong Gao (University of Harbin Institute Technology, P.R. China)

Local Private Ordinal Data Distribution Estimation

Shaowei Wang, Yiwen Nie, Pengzhan Wang, Hongli Xu, Wei Yang and Liusheng Huang (University of Science and Technology of China, P.R. China)

Preserving Mobile Subscriber Privacy in Open Datasets of Spatiotemporal Trajectories

Marco Gramaglia (Universidad Carlos III de Madrid, Spain); Marco Fiore (National Research Council of Italy, Italy); Alberto Tarable (CNR-IEIIT, Italy); Albert Banchs (Universidad Carlos III de Madrid, Spain)

Spatiotemporal Correlation-Aware Dummy-Based Privacy Protection Scheme for Location-Based Services

Hai Liu (Xidian Universality, P.R. China); Xinghua Li, Hui Li, Jian-feng Ma and Xindi Ma (Xidian University, P.R. China)

Network Theory I

Room: Georgia 7-8
Chair: Do Young Eun (North Carolina State University, USA)

Optimal Control for Generalized Network-Flow Problems

Abhishek Sinha (Massachusetts Institute of Technology, USA); Eytan Modiano (MIT, USA)

Generalized Finitary Real-Time Calculus

Kai Lampka (Uppsala Universitet, Sweden); Steffen Bondorf and Jens Schmitt (University of Kaiserslautern, Germany); Nan Guan (Hong Kong Polytechnic University, Hong Kong); Wang Yi (Uppsala University, Sweden)

Maximum-Weighted Subset of Communication Requests Schedulable without Spectral Splitting

Peng-Jun Wan (Illinois Institute of Technology, USA); Huaqiang Yuan (Dongguan University of Technology, P.R. China); Xiaohua Jia (City University of Hong Kong, Hong Kong); Jiliang Wang (Tsinghua University, P.R. China); Zhu Wang (State University of New York at Oneonta, USA)

Augmenting Max-Weight with Explicit Learning for Wireless Scheduling with Switching Costs

Subhashini Krishnasamy (The University of Texas at Austin, USA); Akhil Padinhare Thalasseryveettil (Indian Institute of Science, India); Ari Arapostathis (University of Texas at Austin, USA); Sanjay Shakkottai (The University of Texas at Austin, USA); Rajesh Sundaresan (Indian Institute of Science, India)

RFID Systems I

Room: Georgia 9-10
Chair: Prasun Sinha (Ohio State University, USA)

PHY Assisted Tree-based RFID Identification
Yuxiao Hou and Yuanqing Zheng (The Hong Kong Polytechnic University, Hong Kong)

RF-Scanner: Shelf Scanning with Robot-assisted RFID Systems
Jia Liu, Feng Zhu and Yanyan Wang (Nanjing University, P.R. China); Xia Wang (Nanjing University & Zaozhuang University, P.R. China); Qingfeng Pan and Li-jun Chen (Nanjing University, P.R. China)

DBF: A General Framework for Anomaly Detection in RFID Systems
Min Chen (Google Inc., USA); Jia Liu (Nanjing University, P.R. China); Shigang Chen and Yan Qiao (University of Florida, USA); Yuanqing Zheng (The Hong Kong Polytechnic University, Hong Kong)

Fast Downstream to Many (Computational) RFIDs
Henko Aantjes, Amjad Majid and Przemyslaw Pawelczak (Delft University of Technology, The Netherlands); Jethro Tan (Preferred Networks, Japan); Aaron N Parks and Smith Joshua (University of Washington, USA)

MIMO and Beamforming

Room: Georgia 11-12
Chair: Lidong Wu (UT Tyler, USA)

BUSH: Empowering Large-Scale MU-MIMO in WLANs With Hybrid Beamforming
Zhe Chen (School of Computer Science, Fudan University & Engineering Research Center of Cyber Security Auditing and Monitoring, Ministry of Education, P.R. China); Xu Zhang, Sulei Wang and Yuedong Xu (Fudan University, P.R. China); Jie Xiong (Singapore Management University, Singapore); Xin Wang (Fudan University, P.R. China)

Beamforming in the Body: Energy-efficient and Collision-free Communication for Implants
Meenupriya Swaminathan (Northeastern University, USA); Anna Vizziello (University of Pavia, Italy); Davy Duong (Temple University, USA); Pietro Savazzi (Università degli Studi di Pavia, Italy); Kaushik Chowdhury (Northeastern University, USA)

Smart Underground Antenna Arrays: A Soil Moisture Adaptive Beamforming Approach
Abdul Salam and Mehmet Can Vuran (University of Nebraska-Lincoln, USA)

Tracking mm-Wave Channel Dynamics: Fast Beam Training Strategies under Mobility
Joan Palacios, Danilo De Donno and Joerg Widmer (IMDEA Networks Institute, Spain)

Software Defined Networks I

Room: Atlanta 1-2
Chair: Baek-Young Choi (University of Missouri - Kansas City, USA)

Minimizing Flow Statistics Collection Cost of SDN Using Wildcard Requests
Hongli Xu and Zhuolong Yu (University of Science and Technology of China, P.R. China); Chen Qian (University of California at Santa Cruz, USA); Xiang-Yang Li and Zichun Liu (University of Science and Technology of China, P.R. China)

Traffic Aware Placement of Interdependent NFV Middleboxes
Wenrui Ma (Florida International University, USA); Oscar Sandoval (University of Virginia, USA); Jonathan Beltran, Deng Pan and Niki Pissinou (Florida International University, USA)

Towards Rule Enforcement Verification for Software Defined Networks
Peng Zhang (Xi'an Jiaotong University, P.R. China)

RFlow+: An SDN-based WLAN Monitoring and Management Framework
RhongHo Jang (Inha University, Korea); DongGyu Cho (University of Inha, Korea); Youngtae Noh and Daehun Nyang (Inha University, Korea)

Cloud Storage

Room: Atlanta 3-4
Chair: Sangtae Ha (University of Colorado at Boulder, USA)

Latency Analysis for Distributed Storage
Parimal Parag and Archana Bura (Indian Institute of Science, India); Jean-Francois Chamberland (Texas A&M University, USA)

Taming Tail Latency for Erasure-coded, Distributed Storage Systems
Vaneet Aggarwal and Jingxian Fan (Purdue University, USA); Tian Lan (George Washington University, USA)

DSC: Dynamic Stripe Construction for Asynchronous Encoding in Clustered File System
Shuzhan Wei, Yongkun Li, Yinlong Xu and Si Wu (University of Science and Technology of China, P.R. China)

One-tag Checker: Message-locked Integrity Auditing on Encrypted Cloud Deduplication Storage
Xuefeng Liu (Xidian University, P.R. China); Wenhai Sun (Virginia Tech, USA); Wenjing Lou (Virginia Tech & National Science Foundation, USA); Qingqi Pei (Xidian University, P.R. China); Zhang Yuqing (University of Chinese Academy of Sciences, P.R. China)

Tuesday, May 2, 16:00 - 17:30

Load Balancing

Room: Georgia 2-3
Chair: Balajee Vamanan (University of Illinois at Chicago, USA)

Load Balancing with Bounded Convergence in Dynamic Networks
Michael Dinitz (Johns Hopkins University, USA); Jeremy Fineman (Georgetown University, USA); Seth Gilbert (National University of Singapore, Singapore); Calvin Newport (Georgetown University, USA)

Scalable Software-Defined Networking through Hybrid Switching
Hongli Xu (University of Science and Technology of China, P.R. China); He Huang (Soochow University, P.R. China); Shigang Chen (University of Florida, USA); Gongming Zhao (University of Science and Technology of China, P.R. China)

Load Balancing Over Symmetric Virtual Topologies
Syed Mohammad Irteza, Hafiz Muhammad Mohsin Bashir and Talal Anwar (Lahore University of Management Sciences, Pakistan); Ihsan Ayyub Qazi (Lahore University of Management Sciences (LUMS), Pakistan); Fahad Dogar (Tufts University, USA)

BD-CAT: Balanced Dynamic Content Addressing in Trees
Stefanie Roos (University of Waterloo, Canada); Martin Byrenheid, Clemens Deusser and Thorsten Strufe (TU Dresden, Germany)

Big Data Processing

Room: Georgia 4-5
Chair: Danda B. Rawat (Howard University, USA)

AccountTrade: Accountable Protocols for Big Data Trading Against Dishonest Consumers
Taeho Jung (Illinois Institute of Technology, USA); Xiang-Yang Li and Wenchao Huang (University of Science and Technology of China, P.R. China); Jianwei Qian, Linlin Chen, JunZe Han and Jiahui Hou (Illinois Institute of Technology, USA); Cheng Su (University of Science and Technology of China, P.R. China)

Verifiable Social Data Outsourcing

Xin Yao (Arizona State University, USA); Rui Zhang (University of Delaware, USA); Yanchao Zhang (Arizona State University, USA); Yaping Lin (Hunan University, P.R. China)

On Localizing Urban Events with Instagram

Prasanna Giridhar (UIUC, USA); Shiguang Wang (University of Illinois at Urbana-Champaign, USA); Tarek Abdelzaher (University of Illinois, Urbana Champaign, USA); Raghu Ganti (IBM T J Watson Research Center, USA); Lance Kaplan (US Army Research Laboratory, USA); Jemin George (Army Research Laboratory, USA)

LRC: Dependency-Aware Cache Management for Data Analytics Clusters

Yinghao Yu (The Hong Kong University of Science and Technology, Hong Kong); Wei Wang (Hong Kong University of Science and Technology, Hong Kong); Jun Zhang and Khaled B. Letaief (The Hong Kong University of Science and Technology, Hong Kong)

Internet Security I

Room: Georgia 6

Chair: Aziz Mohaisen (University at Buffalo, USA)

Network Anti-Spoofing with SDN Data plane

Yehuda Afek (Tel-Aviv University, Israel); Anat Bremler-Barr (Interdisciplinary Center Herzliya, Israel); Lior Shafir (Tel Aviv University, Israel)

FloodDefender: Protecting Data and Control Plane Resources under SDN-aimed DoS Attacks

Shang Gao, Zhe Peng and Bin Xiao (The Hong Kong Polytechnic University, Hong Kong); Hu Aiqun (Southeast University, P.R. China); Kui Ren (State University of New York at Buffalo, USA)

DDoS Attack on Cloud Auto-scaling Mechanisms

Anat Bremler-Barr and Mor Sides (Interdisciplinary Center Herzliya, Israel); Eli Brosh (Nexcar, Israel)

Securing MultiPath TCP: Design & Implementation

Mathieu Jadin (Université Catholique de Louvain, Belgium); Gautier Tihon (Université Catholique de Louvain); Olivier Pereira (Université Catholique de Louvain, Belgium); Olivier Bonaventure (Université catholique de Louvain, Belgium)

Scheduling I

Room: Georgia 7-8

Chair: Bin Li (University of Rhode Island, USA)

Load Balancing in Large-Scale Systems with Multiple Dispatchers

Mark van der Boor, Sem Borst and Johan van Leeuwaarden (Eindhoven University of Technology, The Netherlands)

Optimizing Stochastic Scheduling in Fork-Join Queueing Models: Bounds and Applications

Wasiur R. KhudaBukhsh and Amr Rizk (Technische Universität Darmstadt, Germany); Alexander Frömmgen (TU Darmstadt, Germany); Heinz Koeppl (Technische Universität Darmstadt, Germany)

Measurement-Based Delay Optimal Scheduler for Multi-Class Traffic in Wireless Networks

Arjun Anand (The University of Texas, Austin, USA); Gustavo de Veciana (The University of Texas at Austin, USA)

Throughput Optimization with Latency Constraints

Alex Davydow (Steklov Math. Institute, Russia); Pavel S Chuprikov (Steklov Mathematical Institute at St. Petersburg & IMDEA Networks Institute, Russia); Sergey I Nikolenko (Steklov Mathematical Institute at St Petersburg, Russia); Kirill Kogan (IMDEA Networks Institute, Spain)

Energy Harvesting and Wireless Charging

Room: Georgia 9-10
Chair: Mehmet Can Vuran (University of Nebraska-Lincoln, USA)

Optimal Energy Requesting Strategy for RF-based Energy Harvesting Wireless Communications
Yu Luo, Lina Pu, Yanxiao Zhao and Guodong Wang (South Dakota School of Mines and Technology, USA); Min Song (Michigan Technological University, USA)

Optimizing Wireless Charger Placement for Directional Charging
Haipeng Dai (Nanjing University & State Key Laboratory for Novel Software Technology, P.R. China); Xiaoyu Wang (Nanjing University, P.R. China); Alex X. Liu (Michigan State University, USA); Huizhen Ma (Nanjing University, P.R. China); Guihai Chen (Shanghai Jiao Tong University, P.R. China)

Secure Resource Allocations for Polarization-Enabled Cooperative Cognitive Radio Networks With Energy Harvesting Capability
Fei Wang (Southwest University, P.R. China); Xi Zhang (Texas A&M University, ECE Department, USA)

CatCharger: Deploying Wireless Charging Lanes in a Metropolitan Road Network through Categorization and Clustering of Vehicle Traffic
Li Yan and Haiying Shen (University of Virginia, USA); Juanjuan Zhao (Shenzhen Institutes of Advanced Technology, P.R. China); Chengzhong Xu (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, USA); Feng Luo (Clemson University, USA); Chenxi Qiu (Pennsylvania State University)

Mobile Applications I

Room: Georgia 11-12
Chair: Mooi Choo Chuah (Lehigh University, USA)

Surviving Screen-off Battery through Out-of-band Wi-Fi Coordination
Xianjin Xia and Shi-Ning Li (Northwestern Polytechnical University, P.R. China); Yu Zhang (Northwestern Polytechnical University & RMIT University, P.R. China); Lin Li (Northwestern Polytechnical University, P.R. China); Tao Gu (RMIT University, Australia); Yongji Liu and Yan Pan (Northwestern Polytechnical University, P.R. China)

iGuard: A Real-Time Anti-Theft System for Smartphones
Meng Jin (Northwest University, P.R. China); Yuan He (Tsinghua University, P.R. China); Dingyi Fang, Xiaojiang Chen, Xin Meng and Tianzhang Xing (Northwest University, P.R. China)

ER: Early Recognition of Inattentive Driving Leveraging Audio Devices on Smartphones
Xiangyu Xu (Shanghai Jiao Tong University, P.R. China); Hang Gao (Shanghai Jiao Tong University); Jiadi Yu (Shanghai Jiao Tong University, P.R. China); Yingying Chen (Stevens Institute of Technology, USA); Yanmin Zhu, Guangtao Xue and Minglu Li (Shanghai Jiao Tong University, P.R. China)

Every Pixel Counts: Fine-Grained UI Rendering Analysis for Mobile Applications
Yi Gao and Luo Yang (Zhejiang University, P.R. China); Daqing Chen (China Mobile, P.R. China); Haocheng Huang and Wei Dong (Zhejiang University, P.R. China); Mingyuan Xia (McGill University, Canada); Xue Liu (McGill Univerisity, Canada); Jiajun Bu (Zhejiang University, P.R. China)

Multimedia Streaming

Room: Atlanta 1-2
Chair: Bing Wang (University of Connecticut, USA)

QDLCoding: QoS-Differentiated Low-Cost Video Encoding Scheme for Online Video Service
Guanyu Gao (Nanyang Technological University (NTU), Singapore); Yonggang Wen and Han Hu (Nanyang Technological University, Singapore)

MOMD: A Multi-Object Multi-Dimensional Auction for Crowdsourced Mobile Video Streaming

Ming Tang (The Chinese University of Hong Kong, Hong Kong); Shou Wang (Tsinghua University, P.R. China); Lin Gao (Harbin Institute of Technology (Shenzhen), P.R. China); Jianwei Huang (The Chinese University of Hong Kong, Hong Kong); Lifeng Sun (Tsinghua University, P.R. China)

Low Latency Low Loss Streaming using In-Network Coding and Caching

Kazuhisa Matsuzono (National Institute of Information and Communication Technology (NICT), Japan); Hitoshi Asaeda (National Institute of Information and Communications Technology (NICT), Japan); Thierry Turletti (INRIA & Université Côte d'Azur, France)

FEC for VoIP using Dual-Delay Streaming Codes

Ahmed Badr and Ashish Khisti (University of Toronto, Canada); Wai-Tian Tan, Xiaoqing Zhu and John Apostolopoulos (Cisco Systems, USA)

Cache Management

Room: Atlanta 3-4
Chair: Wei Gao (University of Tennessee, USA)

Rethinking CDN Design with Distributed Time-Varying Traffic Demands

Guoming Tang and Kui Wu (University of Victoria, Canada); Richard Brunner (Ericsson, Canada)

Proactive Retention Aware Caching

Samta Shukla and Alhussein A. Abouzeid (Rensselaer Polytechnic Institute, USA)

Popularity-Aware Caching Increases the Capacity of Wireless Networks

Li Qiu and Guohong Cao (The Pennsylvania State University, USA)

Caching-aware Recommendations: Nudging User Preferences towards better Caching Performance

Livia E. Chatzieleftheriou (Athens University of Economics and Business); Merkourios Karaliopoulos and Iordanis Koutsopoulos (Athens University of Economics and Business, Greece)

Wednesday, May 3

Wednesday, May 3, 08:30 - 10:00

Crowdsensing I

Room: Georgia 2-3
Chair: Qing Yang (Montana State University, USA)

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Secret-Sharing-Based Secure User Recruitment Protocol for Mobile Crowdsensing

Mingjun Xiao (University of Science and Technology of China, P.R. China); Jie Wu (Temple University, USA); Sheng Zhang (Nanjing University, P.R. China); Jiapeng Yu (University of Science and Technology of China, P.R. China)

Context-Aware Data Quality Estimation in Mobile Crowdsensing

Shengzhong Liu, Zhenzhe Zheng and Fan Wu (Shanghai Jiao Tong University, P.R. China); Shaojie Tang (University of Texas at Dallas, USA); Guihai Chen (Shanghai Jiao Tong University, P.R. China)

When Data Acquisition Meets Data Analytics: A Distributed Active Learning Framework for Optimal Budgeted Mobile Crowdsensing

Qiang Xu and Rong Zheng (McMaster University, Canada)

Make a Difference: Diversity-Driven Social Mobile Crowdsensing

Man Hon Cheung (The Chinese University of Hong Kong, Hong Kong); Fen Hou (University of Macau, Macao); Jianwei Huang (The Chinese University of Hong Kong, Hong Kong)

Cloud Computing II

Room: Georgia 4-5
Chair: Yang Yang (Qualcomm Corporate Research and Development, USA)

Provably Efficient Algorithms for Joint Placement and Allocation of Virtual Network Functions
Yu Sang and Bo Ji (Temple University, USA); Gagan R Gupta (AT&T Labs, USA); Xiaojiang Du (Temple University, USA); Lin Ye (Harbin Institute of Technology, P.R. China)

AccurateML: Information-aggregation-based Approximate Processing for Fast and Accurate Machine Learning on MapReduce
Rui Han (Institute Of Computing Technology, Chinese Academy of Sciences, P.R. China); Fan Zhang (Chinese Academy of Sciences, P.R. China); Zhentao Wang (Institute Of Computing Technology, Chinese Academy of Sciences, P.R. China)

On the Latency-Accuracy Tradeoff in Approximate MapReduce Jobs
Juan F Perez (Universidad del Rosario & ACEMS, Colombia); Robert Birke and Lydia Y. Chen (IBM Zurich Research Laboratory, Switzerland)

Approximation Algorithms for the NFV Service Distribution Problem
Hao Feng (University of Southern California, USA); Jaime Llorca (Nokia Bell Labs, USA); Antonia Tulino (Bell Labs and Federico II, USA & Università Federico II, Italy); Danny Raz (Nokia and Technion, Israel); Andreas Molisch (University of Southern California, USA)

Network Monitoring

Room: Georgia 6
Chair: Tamer Nadeem (Old Dominion University, USA)

List of Shared Risk Link Groups Representing Regional Failures with Limited Size
János Tapolcai (Budapest University of Technology and Economics, Hungary); Lajos Rónyai (Budapest University of Technology and Economics (BME), Hungary); Balázs Vass and László Gyimóthi (Budapest University of Technology and Economics, Hungary)

SLA-Verifier: Stateful and Quantitative Verification for Service Chaining
Ying Zhang (Hewlett Packard Labs, USA); Wenfei Wu (Tsinghua University, P.R. China); Sujata Banerjee (VMware, USA); Joon-Myung Kang and Mario A Sanchez (Hewlett Packard Labs, USA)

Progressive Damage Assessment and Network Recovery after Massive Failures
Stefano Ciavarella (University La Sapienza, Italy); Novella Bartolini (Sapienza University of Rome, Italy); Hana Khamfroush (Penn State University, USA); Tom La Porta (Pennsylvania State University, USA)

DyMo: Dynamic Monitoring of Large Scale LTE-Multicast Systems
Yigal Bejerano (Bell-Labs, Alcatel-Lucent, USA); Chandru Raman (Mobile Networks, Nokia, USA); Chun-Nam Yu (Bell Labs, Nokia, USA); Varun Gupta and Craig Gutterman (Columbia University, USA); Tomas Young and Hugo Infante (Mobile Networks, Nokia, USA); Yousef Abdelmalek (Verizon Wireless, USA); Gil Zussman (Columbia University, USA)

Networking Economics I

Room: Georgia 7-8
Chair: Fan Wu (Shanghai Jiao Tong University, P.R. China)

Cooperative and Competitive Operator Pricing for Mobile Crowdsourced Internet Access
Meng Zhang (The Chinese University of Hong Kong, P.R. China); Lin Gao (Harbin Institute of Technology (Shenzhen), P.R. China); Jianwei Huang (The Chinese University of Hong Kong, Hong Kong); Michael Honig (Northwestern University, USA)

Optimising 5G infrastructure markets: The Business of Network Slicing
Dario Bega (IMDEA Networks, Spain); Marco Gramaglia and Albert Banchs (Universidad Carlos III de Madrid, Spain); Vincenzo Sciancalepore (NEC Europe Ltd., Germany); Konstantinos Samdanis (Huawei, Germany); Xavier Costa-Perez (NEC Laboratories Europe, Germany)

Network Slicing Games: Enabling Customization in Multi-Tenant Networks
Pablo Caballero (The University of Texas at Austin, USA); Albert Banchs (Universidad Carlos III de Madrid, Spain); Gustavo de Veciana (The University of Texas at Austin, USA); Xavier Costa-Perez (NEC Laboratories Europe, Germany)

On Optimal Service Differentiation in Congested Network Markets
Mao Zou (University of Science and Technology of China, P.R. China); Richard T. B. Ma (National University of Singapore, Singapore); Xin Wang and Yinlong Xu (University of Science and Technology of China, P.R. China)

Medium Access Control

Room: Georgia 9-10
Chair: Hongzi Zhu (Shanghai Jiao Tong University, P.R. China)

Multi-User Downlink with Single-User Uplink can Starve TCP
Peshal Nayak (Rice University, India); Michele Garetto (Università di Torino, Italy); Edward W. Knightly (Rice University, USA)

Impacts of Channel Selection on Industrial Wireless Sensor-Actuator Networks
Dolvara Gunatilaka (Washington University in St. Louis, USA); Mo Sha (Binghamton University, USA); Chenyang Lu (Washington University in St. Louis, USA)

Random Access with Repeated Contentions for Emerging Wireless Technologies
Andrea Baiocchi (University of Roma Sapienza, Italy); Ilenia Tinnirello (University of Palermo, Italy); Domenico Garlisi (Universita' di Palermo & CNIT Italian National Consortium for Telecommunications, Italy); Alice Lo Valvo (University of Palermo, Italy)

Switch: Enabling Transmitter and Receiver Participation in Seamless Lightweight Control
Chao-Fang Shih and Raghupathy Sivakumar (Georgia Institute of Technology, USA)

Cognitive Radio Network

Room: Georgia 11-12
Chair: Yaling Yang (Virginia Tech, USA)

Pilot-Based Full-Duplex Spectrum-Sensing and Multichannel-MAC Over Non-Time-Slotted Cognitive Radio Networks
Wenchi Cheng (Xidian University, P.R. China); Xi Zhang (Texas A&M University, ECE Department, USA); Hailin Zhang (Xidian University, P.R. China)

A 2D Heterogeneous Rendezvous Protocol for Multi-wideband Cognitive Radio Networks
Xingya Liu and Linda Jiang Xie (University of North Carolina at Charlotte, USA)

A Novel Coupled Queueing Model to Control Traffic via QoS-Aware Collision Pricing in Cognitive Radio Networks
Changhee Joo (UNIST, Korea); Ness B. Shroff (The Ohio State University, USA)

Modeling and Performance Analysis of Wi-Fi Networks Coexisting with LTE-U
Amr Abdelfattah (Sorbonne Universites, France); Naceur Malouch (UPMC Sorbonne Universités - LIP6/CNRS, France)

Multimedia Networking

Rooms: Georgia 11-12, Atlanta 1-2
Chair: Rui Dai (University of Cincinnati, USA)

A Control Theoretic Approach to ABR Video Streaming: A Fresh Look at PID-based Rate Adaptation
Yanyuan Qin and Ruofan Jin (University of Connecticut, USA); Shuai Hao (AT&T Labs - Research, USA); Krishna R Pattipati (University of Connecticut, USA); Feng Qian (Indiana University, USA); Subhabrata Sen (AT&T Labs - Research, USA); Bing Wang and Chaoqun Yue (University of Connecticut, USA)

Modeling and Analyzing the Influence of Chunk Size Variation on Bitrate Adaptation in DASH
Tong Zhang, Fengyuan Ren, Wenxue Cheng, Xiaohui Luo, Ran Shu and Xiaolan Liu (Tsinghua University, P.R. China)

Beyond the Touch: Interaction-Aware Mobile Live Game Streaming with Gazing Pattern Prediction
Cong Zhang, Qiyun He and Jiangchuan Liu (Simon Fraser University, Canada); Zhi Wang (Tsinghua University, P.R. China)

MASH: A Rate Adaptation Algorithm for Multiview Video Streaming over HTTP
Khaled Diab and Mohamed Hefeeda (Simon Fraser University, Canada)

Energy Efficiency and Smart Grid

Room: Atlanta 3-4
Chair: Wen-Zhan Song (University of Georgia, USA)

Electric Grid Power Flow Model Camouflage Against Topology Leaking Attacks
Ian Markwood and Yao Liu (University of South Florida, USA); Kevin Kwiat (Air Force Research Laboratory, USA); Charles A Kamhoua (Air Force Research Laboratory & Information Directorate, USA)

How They Interact? Understanding Cyber and Physical Interactions against Fault Propagation in Smart Grid
Zhuo Lu (University of South Florida, USA); Mingkui Wei (Sam Houston State University, USA); Xiang Lu (Institute of Information Engineering, CAS, P.R. China)

Cost of Differential Privacy in Demand Reporting for Smart Grid Economic Dispatch
Xin Lou (Advanced Digital Sciences Centre, Singapore); Rui Tan (Nanyang Technological University, Singapore); David Yau (Singapore University of Technology and Design, Singapore); Peng Cheng (Zhejiang University & Singapore University of Technology and Design, P.R. China)

Energy-Delay Tradeoff for Request Bundling on Smartphones
Ali Sehati and Majid Ghaderi (University of Calgary, Canada)

Wednesday, May 3, 10:30 - 12:00

Panel A

Room: Georgia 2-3

Security I

Room: Georgia 6
Chair: Tao Shu (Auburn University, USA)

Botnet Protocol Inference in the Presence of Encrypted Traffic
Lorenzo De Carli (University of Wisconsin-Madison, USA); Ruben Torres (Symantec, USA); Gaspar Modelo-Howard and Alok Tongaonkar (Symantec); Somesh Jha (University of Wisconsin-Madison)

CCSP: a Compressed Certificate Status Protocol
Antonios A. Chariton (University of Crete, Greece); Eirini Degkleri and Panagiotis Ilia (FORTH - ICS, Greece); Panagiotis Papadopoulos (FORTH - ICS & University of Crete, Greece); Evangelos Markatos (ICS-FORTH, Greece)

SybilSCAR: Sybil Detection in Online Social Networks via Local Rule based Propagation
Binghui Wang, Le Zhang and Neil Gong (Iowa State University, USA)

Password Correlation: Quantification, Evaluation and Application
Shouling Ji (Zhejiang University, P.R. China & Georgia Institute of Technology, USA); Shukun Yang (ECE, USA); Anupam Das (Carnegie Mellon University, USA); Xin Hu (IBM Research, USA); Raheem Beyah (Georgia Institute of Technology, USA)

Theory of Social Networks II

Room: Georgia 7-8
Chair: Donghyun Kim (Kennesaw State University, USA)

Scalable Bicriteria Algorithms for the Threshold Activation Problem in Online Social Networks
Alan Kuhnle, Tianyi Pan, Md Abdul Alim and My T. Thai (University of Florida, USA)

Why approximate when you can get the exact? Optimal Targeted Viral Marketing at Scale
Xiang Li and Johnathan Smith (University of Florida, USA); Thang N. Dinh (Virginia Commonwealth University, USA); My T. Thai (University of Florida, USA)

Viral Marketing with Positive Influence
Zhao Zhang (Zhejiang Normal University, P.R. China); Yishuo Shi (Xinjiang University, P.R. China); James Willson (The University of Texas at Dallas, USA); Ding-Zhu Du (University of Texas, Dallas, USA); Guangmo Tong (University of Texas at Dallas, USA)

On the Rao-Blackwellization and Its Application for Graph Sampling via Neighborhood Exploration
Chul-Ho Lee (Florida Institute of Technology, USA); Xin Xu and Do Young Eun (North Carolina State University, USA)

Sensor Networks II

Room: Georgia 9-10
Chair: Wei Li (Texas Southern University, USA)

Energy-Efficient Joint Communication-Motion Planning for Relay-Assisted Wireless Robot Surveillance
Yunlong Wu and Bo Zhang (National University of Defense Technology, P.R. China); Shaoshi Yang (University of Southampton, United Kingdom); Xiaodong Yi (State Key Laboratory of High Performance Computing (HPCL), School of Computer, P.R. China); Xuejun Yang (National University of Defense Technology, P.R. China)

Constructing Connected Dominating Sets in Battery-Free Networks
Tuo Shi, Siyao Cheng and Jianzhong Li (Harbin Institute of Technology, P.R. China); Zhipeng Cai (Georgia State University, USA)

Universal Path Tracing for Large-Scale Sensor Networks
Yi Gao, Wei Dong, Xiaoyu Zhang and Wenbin Wu (Zhejiang University, P.R. China)

CFOSynt: Carrier Frequency Offset Assisted Clock Syntonization for Wireless Sensor Networks
Fujuan Guo (University of Nebraska- Lincoln, USA); Baofeng Zhou and Mehmet Can Vuran (University of Nebraska-Lincoln, USA)

Wireless Networks I

Room: Georgia 11-12
Chair: Renato Lo Cigno (University of Trento, Italy)

Autonomous Network Expansion Based on Power-Control State Information
Haiyou Guo (Bell Labs China, R\&I, Alcatel-Lucent Shanghai Bell, P.R. China); Liyu Cai (Alcatel-Lucent Shanghai Bell Co., Ltd, P.R. China)

Efficient Remote Radio Head Switching Scheme in Cloud Radio Access Network: A Load Balancing Perspective
Xiaojian Lin and Shaowei Wang (Nanjing University, P.R. China)

Group Discovery Time in Device-to-Device (D2D) Proximity Services (ProSe) Networks
David Griffith (NIST, USA); Aziza Ben Mosbah (NIST & Télécom SudParis, USA); Richard Rouil (National Institute of Standards and Technology, USA)

Crowdsourcing Spectrum Data Decoding
Roberto Calvo-Palomino (IMDEA Networks Institute & Universidad Carlos III de Madrid, Spain); Domenico Giustiniano (IMDEA Networks Institute, Spain); Vincent Lenders (Armasuisse, Switzerland); Aymen Fakhreddine (IMDEA Networks Institute & Universidad Carlos III de Madrid, Spain)

Wednesday, May 3, 13:30 - 15:00

Datacenter Networks II

Room: Georgia 2-3

Joint Bidding and Geographical Load Balancing for Datacenters: Is Uncertainty a Blessing or a Curse?
Ying Zhang (The Chinese University of Hongkong, Hong Kong); Lei Deng (The Chinese University of Hong Kong, Hong Kong); Minghua Chen (The Chinese University of Hong Kong, P.R. China); Peijian Wang (Xi'an Jiaotong University, P.R. China)

Flicr: Flow-Level Congestion-Aware Routing for Direct-Connect Data Centers
Milad Sharif (Stanford University, USA); Abdul Kabbani (Google Inc, USA)

Optimal Multicast in Virtualized Datacenter Networks with Software Switches
Rui Zhu and Di Niu (University of Alberta, Canada); Baochun Li (University of Toronto, Canada); Zongpeng Li (University of Calgary, Canada)

Rate-Aware Flow Scheduling for Commodity Data Center Networks
Ziyang Li (National University of Defense Technology, P.R. China); Wei Bai (Hong Kong University of Science and Technology, Hong Kong); Kai Chen (Hong Kong University of Science and Technology, P.R. China); Dongsu Han (KAIST, Korea); Yiming Zhang (National University of Defense Technology & NUDT, P.R. China); Dongsheng Li (National University of Defense Technology, P.R. China); Hongfang Yu (University of Electronic Science and Technology of China, P.R. China)

Resource Allocation in Clouds

Room: Georgia 4-5
Chair: Chuan Wu (The University of Hong Kong, Hong Kong)

Interconnecting Heterogeneous Devices in the Personal Mobile Cloud
Yong Li (The University of Tennessee, Knoxville, USA); Wei Gao (University of Tennessee, USA)

Considering Resource Demand Misalignments To Reduce Resource Over-Provisioning in Cloud Datacenters
Liuhua Chen (Clemson University, USA); Haiying Shen (University of Virginia, USA)

Efficient Minimization of Sum and Differential Costs on Machines with Job Placement Constraints
Jaya Prakash Champati and Ben Liang (University of Toronto, Canada)

Transparent Cross-technology Communication over Data Traffic
Wenchao Jiang and Zhimeng Yin (University of Minnesota, USA); Song Min Kim (George Mason University, USA); Tian He (University of Minnesota, USA)

Big Data and Learning

Room: Georgia 6
Chair: Chul-Ho Lee (Florida Institute of Technology, USA)

Optimize Web Browsing on Heterogeneous Mobile Platforms: A Machine Learning Based Approach
Jie Ren, Ling Gao and Hai Wang (Northwest University, P.R. China); Zheng Wang (Lancaster University, United Kingdom)

Better with Fewer Bits: Improving the Performance of Cardinality Estimation of Large Data Streams

Qingjun Xiao (SouthEast University of China, P.R. China); You Zhou and Shigang Chen (University of Florida, USA)

Joint Spatial and Temporal Classification of Mobile Traffic Demands

Angelo Furno (IFSTTAR, ENTPE, Université de Lyon & CITI-INRIA, France); Marco Fiore (National Research Council of Italy, Italy); Razvan Stanica (INSA Lyon, France)

Spatiotemporal Modeling and Prediction in Cellular Networks: A Big Data Enabled Deep Learning Approach

Jing Wang, Jian Tang, Zhiyuan Xu and Yanzhi Wang (Syracuse University, USA); Guoliang Xue (Arizona State University, USA); Xing Zhang (Beijing University of Posts and Telecommunications, P.R. China); Dejun Yang (Colorado School of Mines, USA)

Network Theory II

Room: Georgia 7-8
   Chair: Zhuo Lu (University of South Florida, USA)

Fundamental Limits of Failure Identifiability by Boolean Network Tomography

Novella Bartolini (Sapienza University of Rome, Italy); Ting He and Hana Khamfroush (Penn State University, USA)

Network Simplification Preserving Bandwidth and Routing Capabilities

Sergey I Nikolenko (Steklov Mathematical Institute at St Petersburg, Russia); Kirill Kogan and Antonio Fernández Anta (IMDEA Networks Institute, Spain)

Economies of Scale in Parallel-Server Systems

Josu Doncel (INRIA, France); Samuli Aalto (Aalto University, Finland); Urtzi Ayesta (CNRS-IRIT and Ikerbasque-University of the Basque Country, Spain)

Complexity vs. Optimality: Unraveling Source-Destination Connection in Uncertain Graphs

Xinzhe Fu, Zhiying Xu, Qianyang Peng and Luoyi Fu (Shanghai Jiao Tong University, P.R. China); Xinbing Wang (Shanghai Jiaotong University, P.R. China)

Coverage and Positioning

Room: Georgia 9-10
   Chair: Donghyun Kim (Kennesaw State University, USA)

SatProbe: Low-Energy and Fast Indoor/Outdoor Detection based on Raw GPS Processing

Kongyang Chen and Guang Tan (SIAT, Chinese Academy of Sciences, P.R. China)

WOLoc: WiFi-only Outdoor Localization using Crowdsensed Hotspot Labels

Jin Wang (Nanyang Technological University & SAP Machine Learning Incubation Team, Singapore); Nicholas Tan, Jun Luo and Sinno Pan (Nanyang Technological University, Singapore)

Can You Find Me Now? Evaluation of Network-based Localization in a 4G LTE Network

Robert Margolies (AT&T Research, USA); Richard Becker (AT&T Labs, USA); Simon Byers and Supratim Deb (AT&T Labs - Research, USA); Rittwik Jana, Simon Urbanek and Chris Volinsky (AT&T Labs Research, USA)

ZipWeave: Towards Efficient and Reliable Measurement based Mobile Coverage Maps

Mah-Rukh Fida (The University of Edinburgh, United Kingdom); Andra Lutu (Simula Research Laboratory, Norway); Mahesh K Marina (The University of Edinburgh, United Kingdom); Ozgu Alay (Simula Research Laboratory, Norway)

Mobile Applications II

Room: Georgia 11-12
Chair: Baochun Li (University of Toronto, Canada)

SilentTalk: Lip Reading through Ultrasound Sensing on Mobile Phones
Jiayao Tan (Nanjing University, P.R. China); Cam-Tu Nguyen (Nanjing University, Vietnam); Xiaoliang Wang (Nanjing University, P.R. China)

LiCompass: Extracting Orientation from Polarized Light
Yu-Lin Wei, Hsin-I Wu, Han-Chung Wang and Hsin-Mu Tsai (National Taiwan University, Taiwan); Kate Ching-Ju Lin (National Chiao Tung University, Taiwan); Rayana Boubezari, Hoa Le Minh and Zabih Ghassemlooy (Northumbria University, United Kingdom)

EchoTrack: Acoustic Device-free Hand Tracking on Smart Phones
Huijie Chen and Fan Li (Beijing Institute of Technology, P.R. China); Yu Wang (University of North Carolina at Charlotte, USA)

TUM: Towards Ubiquitous Multi-Device Localization for Cross-Device Interaction
Han Xu (The Hong Kong University of Science and Technology, Hong Kong); Zheng Yang (Tsinghua University, P.R. China); Zimu Zhou (ETH Zurich, Switzerland); Ke Yi (HKUST, Hong Kong); Chunyi Peng (The Ohio State University, USA)

Online Social Networks I

Room: Atlanta 1-2
Chair: Michael Sirivianos (Cyprus University of Technology, Cyprus)

Active Opinion Formation in Online Social Networks
Wenjun Jiang (Hunan University, P.R. China); Jie Wu (Temple University, USA)

Learning Distributed Representations for Large-scale Dynamic Social Networks
Zhiyuli Aakas, Xun Liang and Zhiming Xu (Renmin University of China, P.R. China)

Behavior in Social Learning Networks: Early Detection for Online Short-Courses
Weiyu Chen and Christopher G. Brinton (Zoomi Inc., USA); Da Cao (Zoomi, Inc, USA); Mung Chiang (Princeton University, USA)

OpinionWalk: An Efficient Solution to Massive Trust Assessment in Online Social Networks
Guangchi Liu, Qi Chen, Qing Yang and Binhai Zhu (Montana State University, USA); Honggang Wang (University of Massachusetts, Dartmouth & College of Engineering, USA); Wei Wang (San Diego State University, USA)

Cross-Technology Communications

Room: Atlanta 3-4
Chair: Wei Gao (University of Tennessee, USA)

C-Morse: Cross-technology Communication with Transparent Morse Coding
Zhimeng Yin and Wenchao Jiang (University of Minnesota, USA); Song Min Kim (George Mason University, USA); Tian He (University of Minnesota, USA)

WiZig: Cross-Technology Energy Communication over a Noisy Channel
Xiuzhen Guo, Xiaolong Zheng and Yuan He (Tsinghua University, P.R. China)

EMF: Embedding Multiple Flows of Information in Existing Traffic for Concurrent Communication among Heterogeneous IoT Devices
Zicheng Chi (University of Maryland, Baltimore County); Zhichuan Huang (University of Maryland, Baltimore County, USA); Yao Yao (University of Maryland Baltimore County, USA); Tiantian Xie, Hongyu Sun and Ting Zhu (University of Maryland, Baltimore County, USA)

Contact Avoidance Routing in Delay Tolerant Networks
Tomoya Osuki, Kazuya Sakai and Satoshi Fukumoto (Tokyo Metropolitan University, Japan)

Wednesday, May 3, 15:30 - 17:00

Crowdsensing II

Room: Georgia 2-3

CENTURION: Incentivizing Multi-Requester Mobile Crowd Sensing
Haiming Jin (University of Illinois at Urbana-Champaign, USA); Lu Su (State University of New York at Buffalo, USA); Klara Nahrstedt (University of Illinois, USA)

Where Are You From: Home Location Profiling of Crowd Sensors from Noisy and Sparse Crowdsourcing Data
Chao Huang, Dong Wang and Shenglong Zhu (University of Notre Dame, USA)

SpecSense: Crowdsensing for Efficient Querying of Spectrum Occupancy
Ayon Chakraborty, Md Shaifur Rahman, Himanshu Gupta and Samir R. Das (Stony Brook University, USA)

A Lightweight Privacy-Preserving Truth Discovery Framework for Mobile Crowd Sensing Systems
Chenglin Miao and Lu Su (State University of New York at Buffalo, USA); Wenjun Jiang (University at Buffalo, SUNY, USA); Yaliang Li (SUNY Buffalo, USA); Miaomiao Tian (Anhui University, P.R. China)

Resource Management in Cloud Computing II

Room: Georgia 4-5
Chair: Zizhan Zheng (Tulane University, USA)

Online Auction for IaaS Clouds: towards Elastic User Demands and Weighted Heterogeneous VMs
Juan Li, Yanmin Zhu, Jiadi Yu, Chengnian Long and Guangtao Xue (Shanghai Jiao Tong University, P.R. China); Shiyou Qian (Shanghai Jiao Tong University & Shanghai Jiao Tong University, P.R. China)

Online Job Dispatching and Scheduling in Edge-Clouds
Haisheng Tan (University of Science and Technology of China, P.R. China); Zhenhua Han (The University of Hong Kong, P.R. China); Xiang-Yang Li (University of Science and Technology of China, P.R. China); Francis C.M. Lau (The University of Hong Kong, Hong Kong)

Robust Web Service Recommendation via Quantile Matrix Factorization
Rui Zhu and Di Niu (University of Alberta, Canada); Zongpeng Li (University of Calgary, Canada)

Proactive VNF Provisioning with Multi-timescale Cloud Resources: Fusing Online Learning and Online Optimization
Xiaoxi Zhang and Chuan Wu (The University of Hong Kong, Hong Kong); Zongpeng Li (University of Calgary, Canada); Francis C.M. Lau (The University of Hong Kong, Hong Kong)

Security in Wireless Networks

Room: Georgia 6

Virtual Wiretap Channel for Secure Message Transmission and Secret Key Agreement
Setareh Sharifian (Isfahan University of Technology, Iran); Fuchun Lin (Nanyang Technological University, Singapore); Rei Safavi-Naini (University of Calgary, Canada)

Interactive Message Transmission over Adversarial Wiretap Channel II
Pengwei Wang and Reihaneh Safavi-Naini (University of Calgary, Canada)

Analysis of Secrecy Performance in Fading Multiple Access Wiretap Channel with SIC Receiver
Kaiwei Jiang (Beijing Jiaotong University & Taizhou Vocational & Technical College, P.R. China); Tao Jing, Zhen Li, Yan Huo and Fan Zhang (Beijing Jiaotong University, P.R. China)

Understanding Source Location Privacy Protocols in Sensor Networks via Perturbation of Time Series

Matthew Bradbury and Arshad Jhumka (University of Warwick, United Kingdom)

Networking Economics II

Room: Georgia 7-8
Chair: Xiaohua Xu (Kennesaw State University, USA)

Economic Viability of a Virtual ISP

Liang Zheng (Princeton University, USA); Carlee Joe-Wong (Carnegie Mellon University, USA); Jiasi Chen (University of California, Riverside, USA); Christopher G. Brinton (Zoomi Inc., USA); Chee Wei Tan (City University of Hong Kong, Hong Kong); Mung Chiang (Princeton University, USA)

Emerging Internet Content and Service Providers' Relationships: Models and Analyses of Engineering, Business and Policy Impact

Ao Hong and Debasis Mitra (Columbia University, USA); Qiong Wang (University of Illinois, USA)

The Efficiency of Open Access in Platforms for Networked Cournot Markets

John Z. F. Pang, Hu Fu, Won I Lee and Adam C Wierman (California Institute of Technology, USA)

An Experimental Reality Check On The Scaling Laws of Swarming Systems

Diego Ximenes Mendes (UFRJ, Brazil); Edmundo de Souza e Silva, Daniel Menasché and Rosa M M Leão (Federal University of Rio de Janeiro, Brazil); Don Towsley (University of Massachusetts at Amherst, USA)

Wireless Local Area Networks

Room: Georgia 9-10
Chair: Janise McNair (University of Florida, USA)

acPad: Enhancing Channel Utilization for 802.11ac Using Packet Padding

Chi-Han Lin and Yi-Ting Chen (National Tsing Hua University, Taiwan); Kate Ching-Ju Lin (National Chiao Tung University, Taiwan); Wen-Tsuen Chen (Academia Sinica, Taiwan)

Quiet ACK: ACK Transmit Power Control in IEEE 802.11 WLANs

Seongwon Kim (Seoul National University, Korea); Jaehong Yi (Seoul National University & MWNL, Korea); Youngwook Son, Seungmin Yoo and Sunghyun Choi (Seoul National University, Korea)

ACT-AP: ACTivator Access Point for Multicast over WLAN

Gyujin Lee, Yeonchul Shin, Jonghoe Koo, Junyoung Choi and Sunghyun Choi (Seoul National University, Korea)

On Packet Loss Rates in Modern 802.11 Networks

Ramanujan K Sheshadri and Dimitrios Koutsonikolas (University at Buffalo, SUNY, USA)

Reliable and Low-Power Communications

Room: Georgia 11-12
Chair: Przemyslaw Pawelczak (Delft University of Technology, The Netherlands)

A Parity Check Analog Decoder for Molecular Communication based on Biological Circuits

Alessio Marcone (Politecnico di Milano, Italy); Massimiliano Pierobon (University of Nebraska-Lincoln, USA); Maurizio Magarini (Politecnico di Milano, Italy)

Finding MARLIN: Exploiting Multi-Modal Communications for Reliable and Low-latency Underwater Networking

Stefano Basagni (Northeastern University, USA); Valerio Di Valerio, Petrika Gjanci and Chiara Petrioli (University of Rome "La Sapienza", Italy)

An Implantable Low-Power Ultrasonic Platform for the Internet of Medical Things

G. Enrico Santagati and Tommaso Melodia (Northeastern University, USA)

mEEC: A Novel Error Estimation Code with Multi-Dimensional Feature

Zhenghao Zhang and Piyush Kumar (Florida State University, USA)

Software Defined Networks II

Room: Atlanta 1-2
Chair: Mehmet Can Vuran (University of Nebraska-Lincoln, USA)

FlowConvertor: Enabling Portability of SDN Applications
Heng Pan, Gaogang Xie and Zhenyu Li (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China); Peng He (Institute of Computing Technology Chinese Academy of Sciences, P.R. China); Laurent Mathy (University of Liège, Belgium)

One Step at a Time: Optimizing SDN Upgrades in ISP Networks
Konstantinos Poularakis (Yale University, USA); George Iosifidis (Trinity College Dublin and CONNECT, Ireland & Yale University, USA); Georgios Smaragdakis (MIT and TU Berlin); Leandros Tassiulas (Yale University, USA)

Bring Your Own Controller: Enabling Tenant-defined SDN Apps in IaaS Clouds
Haopei Wang (Texas A&M University, USA); Abhinav Srivastava (AT&T Labs--Research, USA); Lei Xu, Sungmin Hong and Guofei Gu (Texas A&M University, USA)

Network Function Virtualization Enablement Within SDN Data Plane
Hesham Mekky (University of Minnesota, USA); Fang Hao (Bell Labs, Nokia, USA); Sarit Mukherjee (Bell Labs USA, USA); Zhi-Li Zhang (University of Minnesota, USA); T. V Lakshman (Bell Labs, Nokia, USA)

Peer-to-Peer and Overlay Networks

Room: Atlanta 3-4
Chair: Onur Altintas (Toyota InfoTechnology Center, USA, Inc., USA)

Bandwidth Scheduling in Overlay Networks with Linear Capacity Constraints
Chase Q. Wu (New Jersey Institute of Technology & Oak Ridge National Laboratory, USA)

SVC-TChain: Incentivizing Good Behavior in Layered P2P Video Streaming
Parisa Rahimzadeh (University of Colorado at Boulder, USA); Carlee Joe-Wong (Carnegie Mellon University, USA); Kyuyong Shin (Korea Military Academy, Korea); Youngbin Im (University of Colorado at Boulder, USA); Jongdeog Lee (University of Illinois at Urbana-Champaign, USA); Sangtae Ha (University of Colorado at Boulder, USA)

A New Stable Peer-to-Peer Protocol with Non-persistent Peers
Omer Bilgen and Aaron Wagner (Cornell University, USA)

MON: Mission-optimized Overlay Networks
Bruce Spang and Anirudh Sabnis (University of Massachusetts Amherst, USA); Ramesh K Sitaraman (University of Massachusetts, Amherst & Akamai Technologies, USA); Don Towsley (University of Massachusetts at Amherst, USA); Brian Decleene (BAE Systems & Technology Solutions, USA)

Thursday, May 4

Thursday, May 4, 08:30 - 10:00

Internet of Things

Room: Georgia 2-3
Chair: Lan Wang (University of Memphis, USA)

A Resource-Aware and Time-Critical IoT Framework
Laszlo Toka, András Lajtha and Éva Hosszu (Budapest University of Technology and Economics, Hungary); Bence Formanek and Dániel Géhberger (Ericsson Research, Hungary); János Tapolcai (Budapest University of Technology and Economics, Hungary)

ADMin: Adaptive Monitoring Dissemination for the Internet of Things

Demetris Trihinas, George Pallis and Marios Dikaiakos (University of Cyprus, Cyprus)

Proximity Based IoT Device Authentication

Jiansong Zhang (Microsoft Research Asia, P.R. China); Zeyu Wang, Zhice Yang and Qian Zhang (Hong Kong University of Science and Technology, Hong Kong)

PUFSec: Device Fingerprint-based Security Architecture for Internet of Things

So-Yeon Park (Ewha Womans University, Korea); Sunil Lim (Sungkyunkwan University, Korea); Dahee Jeong (Ewha Womans University, Korea); Jungjin Lee and Joon-Sung Yang (Sungkyunkwan University, Korea); HyungJune Lee (Ewha Womans University, Korea)

Mobile Offloading

Room: Georgia 4-5

Chair: Serge Fdida (UPMC Sorbonne Universités, France)

Keep Your Nice Friends Close, but Your Rich Friends Closer - Computation Offloading Using NFC

Kathleen Sucipto (The Hong Kong University of Science and Technology, Hong Kong); Dimitris Chatzopoulos (Hong Kong University of Science and Technology, Hong Kong); Sokol Kosta (Aalborg University Copenhagen & Sapienza University of Rome, Denmark); Pan Hui (Hong Kong University of Science and Technology & Telekom Innovation Laboratories, Hong Kong)

A Game Theoretic Analysis of Selfish Mobile Computation Offloading

Slađana Jošilo and György Dán (KTH Royal Institute of Technology, Sweden)

Single Restart with Time Stamps for Computational Offloading in a Semi-Online Setting

Jaya Prakash Champati and Ben Liang (University of Toronto, Canada)

Joint Offloading and Resource Allocation for Computation and Communication in Mobile Cloud with Computing Access Point

Meng-Hsi Chen and Ben Liang (University of Toronto, Canada); Min Dong (University of Ontario Institute of Technology, Canada)

Fault Tolerance and Survivability

Room: Georgia 6

Chair: Janise McNair (University of Florida, USA)

CubeX: Leveraging Glocality of Cube-Based Networks for RAM-Based Key-Value Store

Yiming Zhang (National University of Defense Technology & NUDT, P.R. China); Dongsheng Li and Tian Tian (NUDT, P.R. China); Ping Zhong (CSU, P.R. China)

Towards Reliable and Lightweight Source Switching for Datacenter Networks

Feng Wang (Liberty University, USA); Lixin Gao and Xiaozhe Shao (University of Massachusetts at Amherst, USA); Hiroaki Harai and Kenji Fujikawa (National Institute of Information and Communications Technology, Japan)

Availability-aware Mapping of Service Function Chains

Jingyuan Fan, Chaowen Guan, Yangming Zhao and Chunming Qiao (State University of New York at Buffalo, USA)

Disaster Avoidance Control against Heavy Rainfall

Hiroshi Saito (NTT & NTT Network Technology Laboratories, Japan); Hirotada Honda and Ryoichi Kawahara (NTT, Japan)

Scheduling II

Room: Georgia 7-8

Non-Concave Network Utility Maximization: A Distributed Optimization Approach

Mahmoud Ashour (Penn State University, USA); Jingyao Wang (Peking University, P.R. China); Constantino Lagoa (Pennsylvania State University, USA); Necdet Aybat (Penn State University, USA); Hao Che (University of Texas at Arlington, USA)

Fractional Wireless Link Scheduling and Polynomial Approximate Capacity Regions of Wireless Networks

Peng-Jun Wan and Fahad Al-Dhelaan (Illinois Institute of Technology, USA); Huaqiang Yuan (Dongguan University of Technology, P.R. China); Sai Ji (Nanjing University of Information Science & Technology, P.R. China)

A New Backpressure Algorithm for Joint Rate Control and Routing with Vanishing Utility Optimality Gaps and Finite Queue Lengths

Hao Yu and Michael J. Neely (University of Southern California, USA)

Stable User-defined Priorities

Shay Vargaftik (Technion, Israel); Isaac Keslassy (Technion, VMware); Ariel Orda (Technion, Israel)

RFID Systems II

Room: Georgia 9-10

Chair: Imad Jawhar (UAE University, United Arab Emirates (UAE))

Tag-Compass: Determining the Spatial Direction of an Object with Small Dimensions

Jia Liu (Nanjing University, P.R. China); Min Chen (Google Inc., USA); Shigang Chen (University of Florida, USA); Qingfeng Pan and Li-jun Chen (Nanjing University, P.R. China)

Tag Size Profiling in Multiple Reader RFID Systems

Shigeng Zhang (Central South University, P.R. China); Xuan Liu (Hunan University, P.R. China); Jianxin Wang (Central South University, P.R. China); Jiannong Cao (Hong Kong Polytechnic Univ, Hong Kong)

Fusing RFID and Computer Vision for Fine-Grained Object Tracking

Chunhui Duan and Xing Rao (Tsinghua University, P.R. China); Lei Yang (The Hong Kong Polytechnic University, Hong Kong); Yunhao Liu (Tsinghua University & The Hong Kong University of Science and Technology, P.R. China)

Riding the airways: Ultra-wideband ambient backscatter via commercial broadcast systems

Chouchang Yang (Disney Research, USA); Jeremy Gummeson (University of Massachusetts Amherst, USA); Alanson Sample (Disney Research Pittsburgh, USA)

Wireless Network Measurement

Room: Georgia 11-12

ButterFly: Mobile Collaborative Rendering over GPU Workload Migration

Chao Wu (Tsinghua University, P.R. China); Yaoxue Zhang (Tsinghua University); Lan Zhang (University of Science and Technology of China, P.R. China); Bowen Yang (Tsinghua University, P.R. China); Xu Chen (Sun Yat-sen University); Wenwu Zhu (Tsinghua University, P.R. China); Lili Qiu (The University of Texas at Austin, USA)

Why It Takes So Long to Connect to a WiFi Access Point

Changhua Pei, Zhi Wang, Youjian Zhao and Zihan Wang (Tsinghua University, P.R. China); Yuan Meng (Tsinghua University); Dan Pei (Tsinghua University, P.R. China); Yuanquan Peng, Wenliang Tang and Xiaodong Qu (Tencent, P.R. China)

Monitoring Quality-of-Experience for Operational Cellular Networks Using Machine-to-Machine Traffic

Faraz Ahmed (Michigan State University, USA); Zihui Ge (AT&T Labs - Research, USA); Alex X. Liu (Michigan State University, USA); Jia Wang and He Yan (AT&T Labs - Research, USA)

Is What You Measure What You Expect? Factors Affecting Smartphone-Based Mobile Network Measurement

Lei Xue (The Hong Kong Polytechnic University, Hong Kong); Xiaobo Ma (Xi'an Jiaotong University & The Hong Kong Polytechnic University, P.R. China); Xiapu Luo and Le Yu (The Hong Kong Polytechnic University, Hong Kong); Shuai Wang (The Hong Kong Polytechnic University, P.R. China); Ting Chen (University of Electronic Science and Technology of China (UESTC), P.R. China)

Online Social Networks II

Room: Atlanta 1-2
Chair: Michael Sirivianos (Cyprus University of Technology, Cyprus)

Exploiting Social Influence for Context-Aware Event Recommendation in Event-based Social Networks

Zhibo Wang, Yongquan Zhang, Yijie Li and Qian Wang (Wuhan University, P.R. China); Feng Xia (Dalian University of Technology, P.R. China)

STRM: A Sister Tweet Reinforcement Process for Modeling Hashtag Popularity

Bidisha Samanta and Abir De (IIT Kharagpur, India); Niloy Ganguly (Indian Institute of Technology Kharagpur, India)

Challenging the Limits: Sampling Online Social Networks with Cost Constraints

Xin Xu (North Carolina State University, USA); Chul-Ho Lee (Florida Institute of Technology, USA); Do Young Eun (North Carolina State University, USA)

TagScreen: Synchronizing Social Televisions Through Hidden Sound Markers

Qiongzheng Lin (Tsinghua University, P.R. China); Lei Yang (The Hong Kong Polytechnic University, Hong Kong); Yunhao Liu (Tsinghua University & The Hong Kong University of Science and Technology, P.R. China)

High Performance Switching

Room: Atlanta 3-4
Chair: Wenye Wang (NC State University, USA)

Coflow Scheduling in Input-Queued Switches: Optimal Delay Scaling and Algorithms

Qingkai Liang and Eytan Modiano (MIT, USA)

Coflex: Navigating the Fairness-Efficiency Tradeoff for Coflow Scheduling

Wei Wang, Shiyao Ma and Bo Li (Hong Kong University of Science and Technology, Hong Kong); Baochun Li (University of Toronto, Canada)

Heavy Traffic Queue Length Behavior in Switches with Reconfiguration Delay

Chang-Heng Wang (University of California, San Diego, USA); Siva Theja Maguluri (Georgia Tech, USA); Tara Javidi (UCSD, USA)

A Simple Re-Sequencing Load-Balanced Switch Based on Analytical Packet Reordering Bounds

Sen Yang (Georgia Institute of Technology, USA); Bill Lin (University of California, San Diego, USA); Paul Tune (University of Adelaide, Australia); Jun Xu (Georgia Tech, USA)

Thursday, May 4, 10:30 - 12:00

Panel B
Room: Georgia 2-3
Security II

Room: Georgia 6
Chair: Qiben Yan (University of Nebraska-Lincoln, USA)

Sybil-Proof Incentive Mechanisms for Crowdsensing

Jian Lin, Ming Li and Dejun Yang (Colorado School of Mines, USA); Guoliang Xue (Arizona State University, USA); Jian Tang (Syracuse University, USA)

Mechanism Design Games for Thwarting Malicious Behavior in Crowdsourcing
Chunchi Liu and Shengling Wang (Beijing Normal University, P.R. China); Liran Ma (Texas Christian University, USA); Xiuzhen Cheng (George Washington Univ, USA); Rongfang Bie (Beijing Normal University, P.R. China); Jiguo Yu (Qufu Normal University, P.R. China)

MAGIK: An Efficient Key Extraction Mechanism Based on Dynamic Geomagnetic Field
Fudong Qiu, Zhengxian He, Linghe Kong and Fan Wu (Shanghai Jiao Tong University, P.R. China)

Privacy-Preserving Pattern Matching over Encrypted Genetic Data in Cloud Computing
Bing Wang (Virginia Tech, USA); Wei Song (Wuhan University, P.R. China); Wenjing Lou (Virginia Tech & National Science Foundation, USA); Thomas Hou (Virginia Tech, USA)

Congestion Control

Room: Georgia 7-8
Chair: Yang Yang (Qualcomm Corporate Research and Development, USA)

TCP Rapid: From Theory to Practice
Qianwen Yin (UNC Chapel Hill, USA); Jasleen Kaur and F. Donelson Smith (University of North Carolina at Chapel Hill, USA)

Convergence to multi-resource fairness under end-to-end window control
Thomas Bonald (Telecom ParisTech, France); James Roberts (IRT SystemX, France); Christian Vitale (IMDEA Networks Institute & Universidad Carlos III Madrid, Spain)

Improving ECN Marking Scheme with Micro-burst Traffic in Data Center Networks
Danfeng Shan and Fengyuan Ren (Tsinghua University, P.R. China)

Multipath TCP for Datacenters: From Energy Efficiency Perspective
Jia Zhao and Jiangchuan Liu (Simon Fraser University, Canada); Haiyang Wang (University of Minnesota at Duluth, USA); Chi Xu (Simon Fraser University, Canada)

Indoor Localization

Room: Georgia 9-10
Chair: Rui Zhang (University of Delaware, USA)

JADE: Zero-Knowledge Device Localization and Environment Mapping for Millimeter Wave Systems
Joan Palacios, Paolo Casari and Joerg Widmer (IMDEA Networks Institute, Spain)

NaviLight: Indoor Localization and Navigation Under Arbitrary Lights
Zenghua Zhao and Jiankun Wang (Tianjin University, P.R. China); Xingya Zhao and Chunyi Peng (The Ohio State University, USA); Qian Guo (Tianjin University, P.R. China); Bin Wu (Tian jin University, P.R. China)

Taming the Inconsistency of Wi-Fi Fingerprints for Device-Free Passive Indoor Localization
Xi Chen and Chen Ma (McGill University, Canada); Michel Allegue (Aerial, Canada); Xue Liu (McGill Univerisity, Canada)

Knitter: Fast, Resilient Single-User Indoor Floor Plan Construction
Ruipeng Gao (Beijing Jiaotong University, P.R. China); Bing Zhou and Fan Ye (Stony Brook University, USA); Yizhou Wang (Peking University, P.R. China)

Wireless Networks II

Room: Georgia 11-12
Chair: Zhuo Lu (University of South Florida, USA)

A Framework for Evaluating Physical-Layer Network Coding Gains in Multi-hop wireless Networks
Raphael Naves (University of Toulouse, France); Hicham Khalife (Thales Communications & Security, France); Gentian Jakllari (University of Toulouse, France); Vania Conan (Thales Communications & Security, France); André-Luc Beylot (University of Toulouse, France)

Beam-forecast: Facilitating Mobile 60 GHz Networks via Model-driven Beam Steering
Anfu Zhou (Beijing University of Posts and Telecommunications, P.R. China); Xinyu Zhang (University of Wisconsin-Madison, USA); Huadong Ma (Beijing University of Posts and Telecommunications, P.R. China)

Edge-Based Beaconing Schedule in Duty-Cycled Multihop Wireless Networks
Quan Chen (Harbin Institute of Technology, P.R. China); Hong Gao (University of Harbin Institute Technology, P.R. China); Yingshu Li (Georgia State University, USA); Siyao Cheng and Jianzhong Li (Harbin Institute of Technology, P.R. China)

Design and application of a many-to-one communication protocol
Sudipta Saha and Mun Choon Chan (National University of Singapore, Singapore)

Thursday, May 4, 13:30 - 15:00

Data Centric Systems

Room: Georgia 2-3
Chair: Sangtae Ha (University of Colorado at Boulder, USA)

Analysis of Tandem PIT and CS with Non-Zero Download Delay
Huichen Dai and Bin Liu (Tsinghua University, P.R. China); Haowei Yuan (Washington University in St. Louis); Patrick Crowley (Washington University in St. Louis, USA); Jianyuan Lu (Tsinghua University, P.R. China)

Cache Policies for Linear Utility Maximization
Giovanni Neglia (INRIA Sophia Antipolis Mediterranee, France); Damiano Carra (University of Verona, Italy); Pietro Michiardi (EURECOM, France)

Scalable Name-based Data Synchronization for Named Data Networking
Minsheng Zhang, Vince Lehman and Lan Wang (University of Memphis, USA)

Rumor Source Detection under Querying with Untruthful Answers
Jaeyoung Choi (University of Korea Advanced Institute of Science and Technology, Korea); Sangwoo Moon, Jiin Woo, KyunHwan Son, Jinwoo Shin and Yung Yi (KAIST, Korea)

Cloud Computing III

Room: Georgia 4-5
Chair: Qinghua Li (University of Arkansas, USA)

Stealth Migration: Hiding Virtual Machines on the Network
Stefan Achleitner, Tom La Porta and Patrick McDaniel (Pennsylvania State University, USA); Srikanth V. Krishnamurthy (University of California, Riverside, USA); Alexander Poylisher and Constantin Serban (Applied Communication Sciences, USA)

QoE and Power Efficiency Tradeoff for Fog Computing Networks with Fog Node Cooperation
Yong Xiao and Marwan Krunz (University of Arizona, USA)

Timely Cloud Gaming
Roy Yates (Rutgers University, USA); Mehrnaz Tavan and Yi Hu (Rutgers, the State University of New Jersey, USA); Dipankar Raychaudhuri (Rutgers University, USA)

Towards Truthful Auction Mechanisms for Task Assignment in Mobile Device Clouds
Xiumin Wang (Hefei University of Technology, P.R. China); Xiaoming Chen (Zhejiang University, P.R. China); Weiwei Wu (Southeast University, P.R. China)

Internet Security II

Room: Georgia 6
Chair: Aziz Mohaisen (University at Buffalo, USA)

A Secure and Verifiable Outsourcing Scheme for Matrix Inverse Computation
Chunqiang Hu, Abdulrahman Alhothaily and Arwa Alrawais (The George Washington University, USA); Xiuzhen Cheng (George Washington Univ, USA); Carl Sturtivant (University of Minnesota, USA); Hang Liu (The Catholic University of America, USA)

A Signaling Game Model for Moving Target Defense
Xiaotao Feng (University of California, Davis, USA); Zizhan Zheng (Tulane University, USA); Prasant Mohapatra (University of California, Davis, USA); Derya Cansever (Army CERDEC, USA); Ananthram Swami (Army Research Lab., USA)

Checks and Balances: A Tripartite Public Key Infrastructure for Secure Web-based Connections
Jing Chen and Shixiong Yao (Wuhan University, P.R. China); Quan Yuan (University of Texas-Permian Basin, USA); Ruiying Du (Wuhan University, P.R. China); Guoliang Xue (Arizona State University, USA)

Internet-Wide Study of DNS Cache Injections
Amit Klein (Fraunhofer SIT, Israel); Haya Shulman and Michael Waidner (Fraunhofer SIT, Germany)

Scheduling for Data Processing

Room: Georgia 7-8
Chair: Xiaohua Xu (Kennesaw State University, USA)

BlitzG: Exploiting High-Bandwidth Networks for Fast Graph Processing
Yongli Cheng (Huazhong University of Science & Technology, P.R. China); Hong Jiang (University of Texas at Arlington, USA); Fang Wang (Wuhan National Laboratory for Optoelectronics, P.R. China); Yu Hua and Dan Feng (Huazhong University of Science and Technology, P.R. China)

Performance Optimization of Hadoop Workflows in Public Clouds through Adaptive Task Partitioning
Tong Shu (New Jersey Institute of Technology, USA); Chase Q. Wu (New Jersey Institute of Technology & Oak Ridge National Laboratory, USA)

Energy Efficient Real-time Task Scheduling on CPU-GPU Hybrid Clusters
Xinxin Mei and Xiaowen Chu (Hong Kong Baptist University, Hong Kong); Hai Liu (Hang Seng Management College, Hong Kong); Yiu-Wing Leung (Hong Kong Baptist University, Hong Kong); Zongpeng Li (University of Calgary, Canada)

Adaptive Scheduling of Parallel Jobs in Spark Streaming
Dazhao Cheng (University of North Carolina at Charlotte, USA); Yuan Chen (Hewlett Packard Labs, USA); Xiaobo Zhou (University of Colorado at Colorado Springs, USA); Daniel Gmach and Dejan Milojicic (Hewlett Packard Labs)

Wearable Devices and Networking

Room: Georgia 9-10
Chair: Yan Wang (Binghamton University, USA)

Detecting On-Body Devices Through Creeping Wave Propagation
Wei Wang (Huazhong University of Science and Technology, P.R. China); Yingjie Chen, Lin Yang and Qian Zhang (Hong Kong University of Science and Technology, Hong Kong); Jin Zhang (South University of Science and Technology of China, P.R. China)

FitCoach: Virtual Fitness Coach Empowered by Wearable Mobile Devices

Xiaonan Guo (Stevens Insititute of Technology, USA); Jian Liu and Yingying Chen (Stevens Institute of Technology, USA)

Meta-Activity Recognition: A Wearable Approach for Logic Cognition-based Activity Sensing

Lei Xie, Xu Dong, Wei Wang and Dawei Huang (Nanjing University, P.R. China)

LightTouch: Securely Connecting Wearables to Ambient Displays with User Intent

Xiaohui Liang (University of Massachusetts Boston & University of Massachusetts Boston, USA); Tianlong Yun, Ronald Peterson and David Kotz (Dartmouth College, USA)

Coexistence and Interference Management

Room: Georgia 11-12
Chair: Yuan He (Tsinghua University, P.R. China)

When and How Much to Neutralize Interference?

Zhao Li (Xidian University, P.R. China); Kang G. Shin (University of Michigan, USA); Lu Zhen (Xidian University, P.R. China)

Inter-Client Interference Cancellation for Full-Duplex Networks

Kai-Cheng Hsu (National Taiwan University, Taiwan); Kate Ching-Ju Lin (National Chiao Tung University, Taiwan); Hung-Yu Wei (National Taiwan University, Taiwan)

Towards Instantaneous Collision and Interference Detection using In-Band Full Duplex

Tom Vermeulen (KU Leuven, Belgium); Mihir Laghate and Ghaith Hattab (University of California, Los Angeles, USA); Danijela Cabric (University of California Los Angeles, USA); Sofie Pollin (KU Leuven, Belgium)

Coexistence of Dedicated Short Range Communications (DSRC) and Wi-Fi: Implications to Wi-Fi Performance

Gaurang Naik (Virginia Tech, USA); Jinshan Liu (Virginia Polytechnic Institute and State University, USA); Jung-Min (Jerry) Park (Virginia Tech, USA)

Thursday, May 4, 15:30 - 17:00

Internet Monitoring

Room: Georgia 4-5
Chair: Bing Wang (University of Connecticut, USA)

Randomized Admission Policy for Efficient Top-k and Frequency Estimation

Ran Ben Basat (Technion, Israel); Gil Einziger (Nokia Bell labs, Israel); Roy Friedman and Yaron Kassner (Technion, Israel)

Optimal Elephant Flow Detection

Ran Ben Basat (Technion, Israel); Gil Einziger (Nokia Bell Labs); Roy Friedman and Yaron Kassner (Technion, Israel)

Fast Low-Rank Matrix Approximation with Locality Sensitive Hashing for Quick Anomaly Detection

Gaogang Xie (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China); Kun Xie and Jun Huang (State University of New York at Stony Brook, USA); Xin Wang (Stony Brook University, USA); Yuxiang Chen (State University of New York at Stony Brook, USA); Jigang Wen (Chinese Academy of Science & Institute of Computing Technology, P.R. China)

Accurate Recovery of Internet Traffic Data Under Dynamic Measurements

Kun Xie and Can Peng (State University of New York at Stony Brook, USA); Xin Wang (Stony Brook University, USA); Gaogang Xie (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China); Jigang Wen (Chinese Academy of Science & Institute of Computing Technology, P.R. China)

Security in Mobile Applications

Room: Georgia 6
Chair: Liran Ma (Texas Christian University, USA)

Large-scale Invisible Attack on AFC Systems with NFC-equipped Smartphones

Fan Dang (Tsinghua University, P.R. China); Pengfei Zhou (FFS Technology & Tsinghua University, P.R. China); Zhenhua Li (Tsinghua University, P.R. China); Ennan Zhai (Yale University, USA); Aziz Mohaisen (University at Buffalo, USA); Qingfu Wen (Tsinghua University, P.R. China); Mo Li (Nanyang Technological University, Singapore)

Your Face Your Heart: Secure Mobile Face Authentication with Photoplethysmograms

Yimin Chen, Jingchao Sun, Xiaocong Jin and Tao Li (Arizona State University, USA); Rui Zhang (University of Delaware, USA); Yanchao Zhang (Arizona State University, USA)

LeakSemantic: Identifying Abnormal Sensitive Network Transmissions in Mobile Applications

Hao Fu (University of California, Davis, USA); Zizhan Zheng (Tulane University, USA); Somdutta Bose (University Of California, Davis, USA); Matt Bishop and Prasant Mohapatra (University of California, Davis, USA)

Energy-efficient W-layer for Behavior-based Implicit Authentication on Mobile Devices

Yingyuan Yang and Jinyuan (Stella) Sun (University of Tennessee, USA)

Network Theory III

Room: Georgia 7-8
Chair: Do Young Eun (North Carolina State University, USA)

Online Knapsack Problem and Budgeted Truthful Bipartite Matching

Rahul Vaze (TIFR Mumbai, India)

Robust Routing in Interdependent Networks

Jianan Zhang (Massachusetts Institute of Technology, USA); Eytan Modiano (MIT, USA)

Constructing a Self-stabilizing CDS with Bounded Diameter in Wireless Networks under SINR

Jiguo Yu and Xueli Ning (Qufu Normal University, P.R. China); Yunchuan Sun and Shengling Wang (Beijing Normal University, P.R. China); Yawei Wang (The George Washington University, USA)

Conflict Graph Embedding for Wireless Network Optimization

Wenzhong Li and Jinggong Zhang (Nanjing University, P.R. China); Yanchao Zhao (Nanjing University of Aeronautics and Astronautics & Nanjing University, P.R. China)

5G Networks

Room: Georgia 9-10
Chair: Shiwen Mao (Auburn University, USA)

Dynamic Base Station Formation for Solving NLOS Problem in 5G Millimeter-Wave Communication

Shih-Chun Lin (Georgia Tech, USA); Ian F. Akyildiz (Georgia Institute of Technology, USA)

Dynamic Path Selection in 5G Multi-RAT Wireless Networks

Sem Borst (Nokia Bell Labs & Eindhoven University of Technology, USA); Aliye Ozge Kaya (Nokia Bell Labs, USA); Doru Calin (Nokia, USA); Harish Viswanathan (Alcatel-Lucent, USA)

Service Chain Embedding with Maximum Flow in Software Defined Network and Application to the Next-Generation Cellular Network Architecture

Jian-Jhih Kuo (Academia Sinica, Taiwan); Shan-Hsiang Shen (National Taiwan University of Science and Technology, Taiwan); Hong-Yu Kang (National Tsing Hua University, Taiwan); De-Nian Yang (Academia Sinica, Taiwan); Ming-Jer Tsai (National Tsing Hua University, Taiwan); Wen-Tsuen Chen (Academia Sinica, Taiwan)

Mobile Traffic Forecasting for Maximizing 5G Network Slicing Resource Utilization
> Vincenzo Sciancalepore (NEC Europe Ltd., Germany); Konstantinos Samdanis (Huawei, Germany); Xavier Costa-Perez (NEC Laboratories Europe, Germany); Dario Bega (IMDEA Networks, Spain);
>
> Marco Gramaglia and Albert Banchs (Universidad Carlos III de Madrid, Spain)

Mobile Applications III

Room: Georgia 11-12
> Chair: Baochun Li (University of Toronto, Canada)

Understanding and Managing Notifications
> Swadhin Pradhan (University of Texas at Austin, USA); Lili Qiu (The University of Texas at Austin, USA); Abhinav Parate (Lumme Inc, USA); Kyu-Han Kim (Hewlett-Packard Laboratories, USA)

POWERFUL: Mobile App Fingerprinting via Power Analysis
> Yimin Chen, Xiaocong Jin and Jingchao Sun (Arizona State University, USA); Rui Zhang (University of Delaware, USA); Yanchao Zhang (Arizona State University, USA)

iType: Using Eye Gaze to Enhance Typing Privacy
> Zhenjiang Li (City University of Hong Kong, Hong Kong); Mo Li (Nanyang Technological University, Singapore); Prasant Mohapatra (University of California, Davis, USA); Shuaiyu Chen and Jinsong Han (Xi'an Jiaotong University, P.R. China)

On Human Mobility Predictability Via WLAN Logs
> Paul Cao (UC-San Diego); Gang Li (the Ohio State University, USA); Adam C. Champion, Dong Xuan and Steve Romig (The Ohio State University, USA); Wei Zhao (University of Macau, P.R. China)

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