

## Burak KANTARCI, Ph.D, P.Eng., SMIEEE, SM-ACM

University of Ottawa  
 School of Electrical Engineering and Computer Science  
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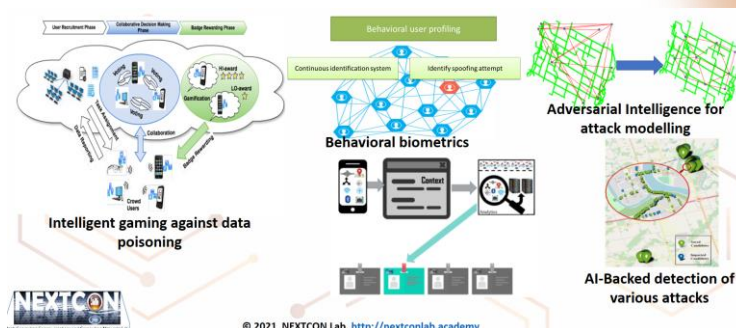
### PROFILE

- Associate Professor (tenured) at University of Ottawa, ON, Canada
- Courtesy Faculty at Clarkson University, NY, USA
- Principal Investigator or co-PI in various funded grants since 2015 (> \$2M in total)
- Co-author of published/accepted 75 journal articles, 135 conference papers, 13 book chapters
- Top **0.8%** most cited researcher in networking and telecommunications according to the science-wide author databases of standardized citation indicators study by Stanford University in 2020
- Director, CFI-JELF-funded Smart Connected Vehicles Innovation Lab
- **ACM Distinguished Speaker** (2019-2021)
- Chair, IEEE Communication Systems Integration and Modeling Technical Committee (2019-20)
- Senior Member of the IEEE, Senior Member of ACM
- Founding Director, Applied Artificial Intelligence in Electrical Engineering (Grad) at uOttawa

### CURRENT RESEARCH FOCUS

- Internet of Things, Internet of Vehicles
- AI-driven Security for Internet of Things, and Connected and Autonomous Vehicles
- AI-backed event detection, actuation and planning for Vehicular Sensing and Connected Vehicles
- Crowdsensing and vehicular social networks
- Continuous Authentication and behavioral biometrics
- AI-backed Secure and Trustworthy Cyberspace
- Communication models for big data analytics

### Smart Connected Vehicles Innovation Lab.



#### Ongoing Research:

- Vehicular sensory data acquisition
- Security and safety assurance of autonomous vehicular systems
- AI-driven decision support
- Detection and estimation

## WORK EXPERIENCE

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- Associate Professor (Tenured)** **2019-Present**  
 School of Electrical Engineering and Computer Science  
 University of Ottawa, ON, Canada
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uOttawa
- Assistant Professor (Tenure-track)** **2016-2019**  
 School of Electrical Engineering and Computer Science  
 University of Ottawa, ON, Canada
- Courtesy Faculty** **2016- Present**  
 Department of Electrical and Computer Engineering  
 Clarkson University, NY, USA
-  **Clarkson**<sup>TM</sup>
- Assistant Professor (Tenure-track)** **2014- 2016**  
 Department of Electrical and Computer Engineering  
 Clarkson University, NY, USA
- Postdoctoral Research Fellow** **2009-2014**  
 University of Ottawa, ON, Canada  
 School of Electrical Engineering and Computer Science
-    
uOttawa
- Lecturer** **2008-2009**  
 Istanbul Technical University, Information Technologies Program
- Researcher** **2007-2008**  
 University of Ottawa  
 School of Information Technology and Engineering  
 Funded by Scientific and Technical Research Council of Turkey (TUBITAK)
- Teaching and Research Assistant** **2004-2009**  
 Istanbul Technical University, Department of Computer Engineering
- Project Researcher** **2004-2005**  
 Performance Study of Optical Networks and Their Traffic Modeling  
 Funded by Centre National de la Recherche Scientifique (CNRS- France),  
 TUBITAK and Istanbul Technical University

## EDUCATION

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- Istanbul Technical University** **2009**  
 Ph.D in Computer Engineering  
 Supervisors: Dr. Sema Oktug (ITU), Dr. Hussein Mouftah (UoOttawa)
- University of Ottawa (Canada)** **2007-2008**  
 Pursued PhD thesis study co-supervised by Dr. Mouftah during scholarship  
 Host Supervisor: Dr. Hussein Mouftah  
 Thesis Title: Availability Constrained Routing and Wavelength Assignment and Survivability in  
 Optical WDM Networks

<b>Istanbul Technical University</b> MSc in Computer Engineering Supervisor: Dr. Sema Oktug Thesis: Performance Comparison and Traffic Analysis in Optical Burst Switched Networks	<b>2005</b>
<b>Istanbul Technical University</b> BSc in Computer Engineering	<b>2002</b>

## TEACHING EXPERIENCE

### Lectured Courses at University of Ottawa:

*ELG 5255* Applied Machine Learning (Fall 2020), *CSI5140/ELG5142* Ubiquitous Sensing for Smart Cities (Fall 2019, Winter 2021), *CSI5140* Information & Communication Systems for Smart Cities (Fall 2017,2018), *SEG4135* Cloud Systems and Networks (Fall 2019, Winter2021), *CSI3131* Operating Systems (Spring/Summer 2017, Winter 2019, Winter2020), *SEG4300* Topics in Software Engineering (Winter 2017- 2019), *CEG2136* Computer Architecture I (Fall 2016)

### Lectured Courses at Clarkson University

*EE512/CS667* Cloud Systems and Networks (graduate level), *EE408* Software Design for Visual Environments (junior/senior level), *EE491* Directed Study in Electrical and Computer Engineering (junior/senior level)

## RESEARCH GRANTS AND FUNDED PROJECTS

<b>Canada Foundation for Innovation (CFI)- John R. Evans Leaders Fund (PI)</b> (Awarded: \$357,410) Project Title: AI-Backed Internet of Vehicles Laboratory: An Open Access Innovation Facility	<b>2020</b>
<b>NSERC Alliance (Total Amount: \$50,000, PI)</b> Project Title: Artificial Intelligence-Based Decision Support System for COVID-19 Mobile Assessments and Optimal Supply Services During the Pandemic	<b>2020-2021</b>
<b>Ontario Centres of Excellence (OCE) - 5G (ENCQOR) Academic Technology Development Program (Awarded, Total Amount: \$150,000, PI)</b> Project Title: Machine Learning-based Firewall-less Security Automation for the Network Edge	<b>2020-2022</b>
<b>MITACS Elevate (Awarded, Total Amount: \$120,000, PI)</b> Project title: Meta-information Extraction from Large-scale Streaming News for Entity-level Media Intelligence and Reporting	<b>2020-2022</b>
<b>MITACS Accelerate (Cluster-Size; Awarded: \$270,000 CAD in cash, PI)</b> Project Title: AI-Based Automated Methodologies for Supply Chains: High Precision Tabular Detection and Semantic Modeling of E-Components	<b>2019-2022</b>
<b>Ontario Centres of Excellence-OCE AVIN TIP (Awarded \$40,000CAD total \$30,000CAD in cash, PI)</b> Project Title: Vehicular Sensor Fusion for Detection and Characterization of Significant Events	<b>2019-2020</b>

- Ontario Centres of Excellence-OCE VIP 1 (Awarded \$39,999CAD total \$24,999CAD in cash, PI)** **2019**  
Project Title: Fine-grained continuous authentication accounting for multiple risk context factors
- NSERC ENGAGE (Awarded \$25,000 CAD, PI)** **2018**  
Project Title: Semantic Modelling and Machine Learning Analysis of a Billion+ Electronic Components Products to Support Supply Chain Optimization
- Ontario Centres of Excellence-OCE VIP1 (Awarded \$39,983 CAD total, \$24,983CAD in cash, PI)** **2018**  
Project Title: Semantic Modelling and Machine Learning Analysis of a Billion+ Electronic Components Products to Support Supply Chain Optimization
- NSERC DISCOVERY (Awarded \$125,000 CAD in total, PI)** **2017-2022**  
Project Title: Mobile social network analytics and mobile edge solutions for trustworthy and reliable urban sensing
- Visiting Researcher Program- OVPR (Awarded, \$6,000 CAD, PI)** **2018**  
Project Title: *Empowering Smart Mobile Devices for Real-time Health Analytics*
- NSF US-Ignite: (Awarded, \$750,000CAD; co-PI share: \$137,788 CAD Subawarded to the University of Ottawa)** **2017-2021**  
Project Title: An Integrated Reconfigurable Control and Self-Organizing Communication Framework for Advanced Community Resilience Microgrids
- NSF-CRII: Secure Trustworthy Cyberspace Program (Awarded \$225,000 CAD, PI)** **2015-2017**  
Project title: CRII: SaTC: Energy efficient participatory data collection and Context-Aware Incentives for Trustworthy Crowdsensing via Mobile Social Networks
- CITeR: NSF-I/UCRC Cooperative Research Center (PI, Awarded \$50,000 CAD)** **2015-2016**  
Project Title: Context-aware Anomaly Detection in Internet of Biometric Things
- Qualcomm Inc., (PI, Awarded \$20,000.00)** **2015-2017**  
Project Title: Wireless Internet of Things Lab for Sensor Networks, Localization, and Mobile Computing at Clarkson University
- University of Ottawa Startup Grant** **2016- Present**  
Project Title: Large scale sensing systems for smart cities
- Clarkson University Startup Grant** **2014-2016**  
Project Title: Clarkson University Research Startup
- Postdoctoral Research fellowship** **2009-2014**  
Awarded at University of Ottawa by WiSense project at School of EECS
- PhD Research Grant (funded PhD thesis study at the University of Ottawa)** **2007-2008**  
TUBITAK-Scientific and Technological Research Council of Turkey

## AWARDS AND RECOGNITIONS

<b>ACM Senior Membership</b>	<b>2020</b>
<b>Outstanding Thesis Prize Nomination: Graduate student Ji Chu Jiang</b> Supervised Thesis Title: High Precision Deep Learning-based Tabular Data Extraction	<b>2020</b>
<b>Outstanding Leadership Award from IEEE ICNC as Symposium Co-Chair: Machine Learning for Communications and Networking</b>	<b>2020</b>
<b>Fall Cognos Prize (2<sup>nd</sup> Place) won by Student: Xuankai Chen.</b> Supervised Project: Artificial Neural Networks-assisted Data Acquisition in Mobile Crowdsensing Systems	<b>2019</b>
<b>Certificate of Appreciation for IEEE 7th IEEE International Conference on Wireless for Space and Extreme Environments as Publicity Co-Chair</b>	<b>2019</b>
<b>Winter Cognos Prize won by Student: Mark Traquair</b> Supervised Project: Feasibility Study of Methods in Content Extraction From Tabular Data in Digitized Documents	<b>2019</b>
<b>Outstanding Master's Thesis Prize Nomination: Graduate student Cem Kaptan</b> Supervised Thesis Title: Data Analytics-backed Vehicular Crowd-sensing for GPS-less Tracking in Public Transportation	<b>2018</b>
<b>Appreciation Award from IEEE ComSoc as Technical Program Co-Chair of IEEE BlackSeaCom 2020</b>	<b>2020</b>
<b>Certificate of Appreciation from IEEE Access as Guest editor of Special Section on Advances in Vehicular Clouds</b>	<b>2017</b>
<b>Appreciation Award from IEEE Computer Society as Technical Program Co-Chair ISCC 2016</b>	<b>2016</b>
<b>Certificate of Appreciation from IEEE ComSoc as General Co-Chair IEEE CAMAD 2016</b>	
<b>ACM Distinguished Speaker</b>	<b>2019-2021</b>
	
<b>Best Paper Award at 12th HONET Conference</b>	<b>2015</b>
<b>Certificate of Appreciation from IEEE International Cloud Networking (CLOUDNET) Conference as Technical Program Co-Chair</b>	<b>2015</b>
<b>Certificate of Appreciation from IEEE International Cloud Networking (CLOUDNET) Conference as Publicity Co-Chair</b>	<b>2014</b>
<b>IEEE Senior Membership</b>	<b>2012</b>
<b>Siemens Excellence Award</b> Research excellence award granted to one MSc and one PhD study annually	<b>2005</b>

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**GRADUATE SUPERVISION**

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Past: **20 (6 Ph.D, 14 Master's)** Ongoing: **15 (6 Ph.D, 9 Master's)**

**Past (20):**

Maryam Pouryazdan (Ph.D), Clarkson University, Degree Awarded in Dec. 2018

Thesis Title: Effective incentives to maximize trustworthy participation in mobile crowd-sensing,  
Current Position: IoT Data Scientist, Watts Water Technologies, Boston, MA

Fazel Anjomshoa (Ph.D), Clarkson University, Degree Awarded in June. 2018

Thesis Title: "Behavioral User Profiling and Energy Efficient Incentives in Mobile Crowd-sensing."  
Current Position: Data Scientist at Roku Inc, Boston, MA"

Safa Otoum (Ph.D), University of Ottawa, Degree Awarded in May 2019

Thesis Title: "Machine Learning-driven Intrusion Detection Techniques in Critical Infrastructures Monitored by Sensor Networks"

Current position: Assistant Professor, Zayed University, Abu Dhabi

Claudio Fiandrino (Ph.D), Univ. Of Luxembourg Degree Awarded in Nov 2016 (visiting PhD student at Clarkson University)

Thesis title: "Energy Efficiency for Mobile Devices in Mobile Cloud Computin"

Current position: Juan de la Cierva Fellow, IMDEA Networks Institute, Spain

Riccardo Venanzi (Ph.D) Univ. of Ferrara Degree Awarded in 2019 (visiting PhD student at Univ. Ottawa) Ottawa)

Thesis title: "Device as a Service (DaaS) in Edge-enabled IoT Environments"

Current position: Research fellow, University of Bologna, Italy

Dimitri Belli (Ph.D) Univ of Pisa. Degree Awarded in March 2020 (visiting Ph.D student at University of Ottawa)

Thesis title: "Edge Selection Strategies for Human-Enabled Sensing Architectures"

Current Position: Postdoctoral researcher at Consiglio Nazionale delle Ricerche, Tuscany, Italy

Nima Taherifard (Master's) University of Ottawa. Thesis Defended in May 2021

Thesis title: AI-assisted Multi-modal Event Detection for Connected Vehicles

Current position: 5G Software Developer, Changent.io, Canada

Ji Chu Jiang (Master's) University of Ottawa. Degree Awarded in January 2021

Thesis title: High Precision Deep Learning-based Tabular Data Extraction

Current position: Software Engineer, Lytica Inc, Canada

Kyle Quintal (Master's) University of Ottawa. Degree Awarded in August 2020

Thesis title: Context-Awareness for Adversarial and Defensive Machine Learning Methods in Cybersecurity

Current Position: Data Scientist, AedoAI (Calgary, AB)

Yueqian Zhang (Master's) University of Ottawa. Degree Awarded in December 2019

Thesis title: Resource Clogging Attacks in Mobile Crowd-Sensing: AI-based Modeling, Detection and Mitigation

Current Position: Software Engineer, Intel Corporation, Vancouver, BC, Canada



Ahmed Omara (Master's) University of Ottawa. Degree Awarded in December 2019

Thesis title: Predictive Operational Strategies for Smart Microgrid Networks

Current Position: Ph.D Student at University of Ottawa

Ertugrul Kara (Master's) University of Ottawa, Degree Awarded in August 2019

Thesis Title: Deep Learning-Based Information Extraction From e-Component Sheet Images.

Current Position: Software Development Engineer, Amazon, B.C., Canada

Venkat Surya Dasari (Master's) University of Ottawa, Degree Awarded in August 2019

Thesis Title: User Recruitment and Incentives for Task-Selective Mobile Crowd-Sensing Systems

Zachary I. Rauén (Master's) Clarkson University. Degree Awarded in May 2018

Thesis Title: Improving the role of Human-Computer Interaction in Continuous User Verification in Smartphone Sensing

Current position: Firmware developer, IBM, Poughkeepsie, NY

Cem Kaptan (Master's) University of Ottawa. Degree Awarded in August 2018

Thesis Title: Data Analytics-backed Vehicular Crowd-sensing for GPS-less Tracking in Public Transportation

Current position: Software Engineer, Iqvia, Ottawa, Canada

Sedevizo Kieliényu (Master's) University of Ottawa. Degree Awarded in September 2020

Project Title: Machine Learning-Backed Mobile Crowdsensing for Look Ahead Risk Maps of Communities [Project was in thesis quality. Paper in ACM MobiWac'2020]

Current position: Researcher at NEXTCON Lab., uOttawa

Ankita Sood (Master's) University of Ottawa. Degree Awarded in June 2019

Project Title: Deep Learning-based detection of malicious tasks in mobile crowdsensing [Project was in thesis quality. Published a paper in IEEE GlobalSIP'19]

Current position: Data analyst, Kinaxis, Ottawa, Canada

Wendong Yuan (Master's) University of Ottawa. Degree Awarded in May 2018

Project Title: Machine Learning-Driven Aggregation of Microgrid Data and Integration of Heterogeneous Wireless Network, [Project was in thesis quality. Published a paper in ACM MobiWac'18]

Current position: Software Engineer, Fortinet Inc., Ottawa, Canada

George Patrick Xavier (Master's) University of Ottawa. Degree Awarded in May 2018

Project Title: Mobility –Aware Virtual Network Function Placement on Edge Clouds Under Internet of Things Environment [Project was in thesis quality. Published an article in Springer Annals of Telecommunications]

Current position: Digital Integration Solutions Developer at Deloitte, Montréal, QC

Damanpreet Singh (Master's) University of Ottawa. Degree Awarded in May 2018

Project Title: Empowering Elastic MapReduce to improve Demographic based Analytics

Current position: Software Development Engineer, IBM, Ottawa, Canada

### **In Progress (15):**

Zhiyan Chen (Ph.D) University of Ottawa, Electrical Engineering

Thesis title: *Adversarial Machine Learning to Model Malicious Behaviour in Non-dedicated Sensing*

Planned Defence Date: April 2023

Jinxin Liu (Ph.D). University of Ottawa, Electrical Engineering

Thesis Title: AI-backed Detection of APT Attacks on Industrial IoT Systems with High Accuracy

Planned Defence Date: April 2023

Ahmed Omara (Ph.D) University of Ottawa, Electrical Engineering

Thesis Title: Adversarial Machine Learning-Based Threat Anticipation and Mitigation in Autonomous Vehicles

Planned Defence Date: December 2023

Bin Xiao (Ph.D) University of Ottawa. Computer Science

Thesis Title: Semantic modelling of tabular images of e-components for automotive supply chains

Planned Defence Date: December 2023

Ahmedou Jreivine (Ph.D) University of Ottawa, Computer Science

Thesis Title: Optimal Edge Planning for Software Defined Vehicular Networks

Planned Defence Date: April 2023

Andressa Vergütz (Ph.D) UFPR-Brazil (co-supervision)

Thesis Title: Detection and Mitigation of Side Channel Attacks in mHealth systems

Planned Defence Date: September 2021

Nahid Parvaresh (Master's) University of Ottawa. Computer Science

Thesis Title: Deep Learning for Decision Support Systems in Autonomous Driving

Planned Defence Date: December 2021

Johan Fernandes (Master's) University of Ottawa. Computer Science

Thesis title: Deep Learning-based tabular structure detection in e-Component sheets

Planned Defence Date: June 2021

Yakup Akkaya (Master's) University of Ottawa. Electrical Engineering

Thesis Title: Content-based tabular anatomy recognition in e-component datasheets

Planned Defence Date: December 2021

Yu Shen (Master's) University of Ottawa. Electrical Engineering

Thesis Title: Knowledge-Based Boosted AI-backed intrusion detection for Industrial Internet of Things

Planned Defence Date: December 2021

Yuwei Wang (Master's) University of Ottawa, Electrical Engineering

Thesis Title: Novel Federated Learning Frameworks for Mobile Networks

Planned Defence Date: August 2021

Samhita Kuili (Master's) University of Ottawa, Electrical Engineering

Thesis Title: Deep Learning-Backed Cybersafety Schemes for Autonomous Vehicles

Planned Defence Date: April 2022

Biwei "Claire" Zhang (Master's) University of Ottawa, System Science

Thesis Title: Deep Learning-Backed Cybersafety Schemes for Autonomous Vehicles

Planned Defence Date: April 2022



Mattia Campestri (Master's) University of Bologna, Computer Science (Visiting Master's student at University of Ottawa)

Thesis Title: Resilience Improvements in Massive IoT Networks

Planned Defence Date: December 2021

Didem Cicek (Master's) University of Ottawa, Digital Transformation for Innovation

Thesis Title: Intelligent Pricing and Business Models for Mobile Data (Jan 2020- May 2021 (planned))

Planned Defence Date: December 2021

## **PUBLICATION LIST**

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### **Books**

**B02.** A. E. Saddik, S. Hossain, B. Kantarci, " Connected Health in Smart Cities", Springer, , ISBN 978-3-030-27844-1, 2020

**B01.** H. T. Mouftah and B. Kantarci, "Communication Infrastructures for Cloud Computing", IGI Global, Hershey, Pennsylvania, USA, September 2013, DOI: 10.4018/978-1-4666-4522-6, ISBN13: 9781466645226.

### **Book Chapters**

**BC13.** M. Simsek, A. Obinikpo, B. Kantarci, "Deep Learning in Smart Health: Methodologies, Applications, Challenges. A. ElSaddik, Hossain S, Kantarci B. Connected Health in Smart Cities, Springer, 2020.

**BC12.** X. Qi, B. Kantarci, C. Liu, "GPU-based acceleration of SDN controllers," Network-as-a-Service in Next Generation Internet, edited by. Q. Duan and S. Wang, IET, Chapter-14, 2017.

**BC11.** M. Soyturk, K. N. Muhammad, M. N. Avcil, B. Kantarci, J. Matthews, "From Vehicular Networks to Vehicular Clouds in Smart Cities," Smart Cities and Homes, edited by. P. Nicopoliditis and M. Obaidat, Morgan Kaufmann, pp. 149-171, 2016.

**BC10** B. Kantarci, H. T. Mouftah, "Sensing as a Service in Cloud-Centric Internet of Things Architecture," Enabling Real-Time Mobile Cloud Computing through Emerging Technologies, edited by T. Soyata, IGI Global, Hershey, PA, pp. 83-115, 2015.

**BC09** A. Page, M. Hassanali, T. Soyata, M. K. Aktas, B. Kantarci, S. Andreescu, "Conceptualizing a Real-time Remote Cardiac Health Monitoring System," in Enabling Real-Time Mobile Cloud Computing through Emerging Technologies, ed. T. Soyata, IGI Global, Hershey, PA, pp. 1-34, 2015.

**BC08** B. Kantarci and H. T. Mouftah, "Inter-data center networks with minimum operational costs," Cloud Services, Networking, and Management, edited by N. Fonseca and R. Boutaba, Wiley-IEEE Press, pp. 105-128, April 2015.

**BC07** B. Kantarci and H. T. Mouftah, "Energy-Efficient Machine-to-Machine Networks," in "Machine-To-Machine Communications: Architectures, Technology, Standards and Applications", edited by, J. Mistic and V. Mistic, Taylor & Francis, NY, ISBN: 978-1-46-656123-6, pp. 179-225, March 2014.

- BC06** B. Kantarci and H. T. Mouftah, "Energy-efficiency in Cloud Data Centers," in "Communication Infrastructures for Cloud Computing," edited by H. T. Mouftah and B. Kantarci, IGI Global, Hershey, PA, pp. 241-263, Sep. 2013
- BC05** D. Tafani, B. Kantarci, H. T. Mouftah, C. McArdle, L. P. Barry, "Towards Energy-Efficiency for Cloud Computing Services," in "Communication Infrastructures for Cloud Computing," edited by H. T. Mouftah and B. Kantarci, IGI Global, Hershey, PA, pp. 306-328, Sep. 2013
- BC04.** B. Kantarci and H. T. Mouftah, "Energy-efficient Design of a Cloud Computing Backbone," in "Communication Infrastructures for Cloud Computing," edited by H. T. Mouftah and B. Kantarci, IGI Global, Hershey, PA, pp. 283-305, Sep. 2013.
- BC03.** H. T. Mouftah and B. Kantarci, "Energy-efficient Cloud Computing: A green migration of the traditional IT", in "Handbook on Green Information and Communication Systems", edited by M. S. Obaidat, A. Anpalagan and I. Woungang, Elsevier, 2012, pp.295-330.
- BC02.** H. T. Mouftah and B. Kantarci, "Greening the Survivable Optical Networks: Solutions and Challenges for the Backbone and Access", "Energy-Aware Systems and Networking for Sustainable Initiatives", edited by W.C. Hu and N. Kaabouch, PA: IGI Global, 2012, pp. 256-286.
- BC01.** H. T. Mouftah and B. Kantarci, "Robust Design and Management of Optical Networks: Incorporating Availability-Awareness", in Resilient Optical Network Design: Advances in Fault-Tolerant Methodologies, eds. Y. S. Kavian and M. S. Leeson, PA: IGI Global, pp. 195-226, Dec. 2011.

### **Refereed Journal Articles**

- J75.** Z. Chen, C. Fiandrino, B. Kantarci "On Blockchain Integration into Mobile sensing via Smart Embedded Devices: A Comprehensive Survey," Elsevier Journal of Systems Architecture, vol. 115, p.102011, May 2021.
- J74** N. Taherifard, M. Simsek, C. Lascelles and B. Kantarci, "Attention-Based Event Characterization for Scarce Vehicular Sensing Data," in IEEE Open Journal of Vehicular Technology, vol. 1, pp. 317-330, Sep. 2020
- J73.** J. Jiang, M. Simsek, B. Kantarci, S. Khan, "TabCellNet: Deep learning-based tabular cell structure detection," Elsevier Neurocomputing, vol 440, pp. 12.23, June 2021.
- J72.** X. Chen, M. Simsek, B. Kantarci "Locally Reconfigurable Self Organizing Feature Map for High Impact Malicious Tasks Submission in Mobile Crowdsensing," Elsevier Internet of Things Journal, vol. 12, p. 100297, Dec. 2020
- J71.** J.C Jiang, B. Kantarci, S. Oktug, T. Soyata, "Federated Learning in Smart City Sensing: Challenges and Opportunities", Sensors Journal, 2020.
- J70.** Y. Zhang, M. Simsek, B. Kantarci "Empowering Self-Organized Feature Maps for AI-Enabled Modelling of Fake Task Submissions to Mobile Crowdsensing Platforms," IEEE Internet of Things Journal, vol. 8, no. 3, pp. 1334-1346, Feb, 2021.

- J69.** A. Boukerche, B. Kantarci, C. Kaptan "Towards Ensuring the Reliability and Dependability of Vehicular Crowd-Sensing Data in GPS-less Location Tracking," Elsevier Pervasive and Mobile Computing, vol. 68, p. 101248, Oct. 2020.
- J68.** M. Simsek, B. Kantarci, Y. Zhang, "Detecting Fake Mobile Crowdsensing Tasks: Ensemble Methods Under Limited Data," IEEE Vehicular Technology Magazine, vol. 15, issue 3, pp. 86--94, September 2020
- J67.** S. Otoum, B. Kantarci, H. T. Mouftah, "A Comparative Study of AI-based Intrusion Detection Techniques in Critical Infrastructures," ACM Transactions on Internet Technology, 2020 (accepted)
- J66.** M. Simsek and B. Kantarci, "Artificial Intelligence-Empowered Mobilization of Assessments in COVID-19-like Pandemics: A Case Study for Early Flattening of the Curve," Int. Journal of Environmental Research and Public Health, vol. 17/10, 3437.1-3437.17, May 2020
- J65.** V. S. Dasasri, B. Kantarci, M. Pouryazdan, L. Foschini, M. Girolami, "Game Theory in Mobile CrowdSensing: A Comprehensive Survey," Sensors, vol. 20/7, 2055.1-2055.23, 2020
- J64.** E. Kara, M. Traquair, M. Simsek, B. Kantarci, S. Khan, "Holistic Design for Deep Learning-Based Discovery of Tabular Structures in Datasheet Images," Elsevier Journal of engineering Applications of Artificial Intelligence, vol 90, p.103551, April 2020
- J63.** M. Elsayed, M. Erol-Kantarci, B. Kantarci, L. Wu, and J. Li, "Low-latency Communications for Community Resilience Microgrids: A Reinforcement Learning Approach," IEEE Transactions on Smart Grid, vol. 11, issue 2, pp. 1091--1099, March 2020.
- J62.** K. Quintal, B. Kantarci, M. Erol-Kantarci, A. Malton, A. Walenstein, "Contextual, Behavioral and Biometric Signatures for Continuous Authentication," IEEE Internet Computing, Sep. 2019
- J61.** A. L. Santos, C. A. V. Cervantes, M. Nogueira, B. Kantarci, "Clustering and reliability-driven mitigation of routing attacks in massive IoT systems," Springer Journal of Internet Services and Applications, vol 10, 18.1--18.17, September 2019 .
- J60.** R. Venanzi, L. Foschini, P. Bellavista, B. Kantarci, C. Stefanelli, "Fog-Driven Context-Aware Architecture for Node Discovery and Energy Saving Strategy for Internet of Things Environments," IEEE Access, vol. 7, pp. 134173- 134186, 2019
- J59.** D. Belli, S. Chessa, B. Kantarci, L. Foschini, "Towards Fog-Based Mobile Crowdsensing Systems: State of the Art and Opportunities," IEEE Communications Magazine, vol 57/12, pp. 78—83, Dec. 2019.
- J58.** A. Capponi, C. Fiandrino, B. Kantarci, L. Foschini, D. Kliazovich, P. Bouvry "A Survey on Mobile Crowdsensing Systems: Challenges, Solutions and Opportunities," IEEE Communications Surveys and Tutorials, vol. 21/3, pp. 2419 – 2465, 2019
- J57.** H. Habibzadeh, B. Nussbaum, B. Kantarci, F. Anjomshoa, T. Soyata "A Survey on Cybersecurity, Data Privacy, and Policy Issues in Cyber-Physical System Deployments in Smart Cities," Elsevier Sustainable Cities and Society, vol 50, Article: 101660, October, 2019.

- J56.** S. Otoum, B. Kantarci, H. T. Mouftah, "On the Feasibility of Deep Learning in Sensor Network Intrusion Detection," *IEEE Networking Letters*, vol. 1/2 pp. 68--71, 2019.
- J55.** H. Habibzadeh, C. Kaptan, T. Soyata, B. Kantarci, A. Boukerche, "Smart City System Design: A Comprehensive Study of the Application and Data Planes," *ACM Computing Surveys*, 2019 (accepted).
- J54.** A. Obinikpo, B. Kantarci, "Big data aggregation in the case of heterogeneity: A feasibility study for Digital Health," *Springer Journal of Machine Learning and Cybernetics*, 2019 (accepted).
- J53.** I. Al Ridhawi, M. Aloqaily, B. Kantarci, Y. Jararweh, H. T. Mouftah, "A continuous diversified vehicular cloud service availability framework for smart cities," *Elsevier Computer Networks*, vol. 145, pp. 2017--218, Nov. 2018
- J52.** Q. Guo, Y. Zhang, J. Lloret, B. Kantarci, W. K.G. Seah, "A Localization Method Avoiding Flip Ambiguities for micro-UAVs with Bounded Distance Measurement Errors," *IEEE Transactions on Mobile Computing*, 2018 (accepted).
- J51.** H. Habibzadeh, T. Soyata, B. Kantarci, A. Boukerche, C. Kaptan, "Sensing, Communication and Security Planes: A New Challenge for a Smart City System Design ," *Elsevier Computer Networks*, vol. 144, pp. 163—200, Oct. 2018
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### **Refereed Conference/Workshop Papers**

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- C134.** Y. Wang and B. Kantarci, "Reputation-enabled Federated Learning Model Aggregation in Mobile Platforms" IEEE 2021 IEEE International Conference on Communications (ICC), Montréal, QC, Canada (accepted)
- C133.** N. Taherifard, M. Simsek, C. Lascelles, B. Kantarci, "Prior Knowledge Input to Improve LSTM Auto-encoder-based Characterization of Vehicular Sensing Data" IEEE 2021 IEEE International Conference on Communications (ICC), Montréal, QC, Canada (accepted)
- C132.** Z. Chen, M. Simsek, B. Kantarci, "Federated Learning-Based Risk-Aware Decision to Mitigate Fake Task Impacts on Crowdsensing Platforms", IEEE 2021 IEEE International Conference on Communications (ICC), Montréal, QC, Canada (accepted)
- C131.** H. Deniz, M. Simsek, B. Kantarci, "On Delay Sensitivity Clusters of Microgrid Data Aggregation Under LTE-A Links" *IEEE Interneteional Black Sea Conference on Communications and Networking (BlackSeaCom)*, Bucharest, Romania, May 2021.
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- C127.** Y. Wang, B. Kantarci, "A new reputation-aware client selection scheme for federated learning within mobile environments" 25th IEEE International Workshop on Computer Aided Modeling and

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**C126.** N. Taherifard, M.Simsek, C.Lascelles, B. Kantarci, "Machine Learning-Driven Event Characterization under Scarce Vehicular Sensing Data" 25th IEEE International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD) , Pisa, Italy (Virtual Event), September 2020.

**C125.** J. Liu, B. Kantarci, C. Adams "Machine Learning-Driven Intrusion Detection for Contiki-NG-Based IoT Networks Exposed to NSL-KDD Dataset" ACM Workshop on Wireless Security and Machine Learning (WiseML) , Linz, Austria (Virtual Event), July July 2020 [invited].

**C124.** M. Simsek, B. Kantarci, A. Boukerche "Knowledge-Based Machine Learning Boosting for Adversarial Task Detection in Mobile Crowdsensing" IEEE International Symposium on Computers and Communications (ISCC) , Rennes, France, July 2020.

**C123.** J.C. Jiang, M. Simsek, B. Kantarci, S. Khan "High Precision Deep Learning-Based Tabular Detection " IEEE International Symposium on Computers and Communications (ISCC) , Rennes, France, July 2020.

**C122.** Y. Zhang, M. Simsek, B. Kantarci ""Ensemble Learning Against Adversarial AI-driven Fake Task Submission in Mobile Crowdsensing"," IEEE International Conference on Communications (ICC) , Dublin, Ireland, June 2020.

**C121.** Z. Chen, Y. Zhang, M. Simsek, B. Kantarci ""Deep Belief Network-based Fake Task Mitigation for Mobile Crowdsensing under Data Scarcity"," IEEE International Conference on Communications (ICC) , Dublin, Ireland, June 2020.

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- C106.** S. Otoum, B. Kantarci, H. T. Mouftah "Empowering Reinforcement Learning on Big Sensed Data for Intrusion Detection," IEEE International Conference on Communications(ICC)- Ad Hoc and Sensor Networks (AHSN) Symposium , Shanghai, China, May 2019.
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- C98.** V. S. Dasari, M. Pouryazdan, B. Kantarci, "Selective Versus Non-Selective Acquisition of Crowd-Solicited IoT Data and its Dependability," IEEE International Conference on Communications (ICC)- Workshop on Convergent Internet of Things , Kansas City, MO, U.S.A, May 2018.
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- C92.** R. Venanzi, B. Kantarci, L. Foschini, P. Bellavista "" "MQTT-Driven Node Discovery for Integrated IoT-Fog Settings Revisited: The Impact of Advertiser Dynamicity," 6th IEEE International Conference on Mobile Cloud Computing, Services, and Engineering (IEEE Mobile Cloud) , Bamberg, Germany, May 2018 (invited).
- C91.** P. A. K. Lorimer, V. M-F. Diec, B. Kantarci, "" "Participatory detection of identity theft on mobile social platforms," IEEE Global Conference on Signal and Information Processing (GlobalSIP) , Montreal, QC, Canada, November 2017.
- C90.** B. Felix, A. Santos, B. Kantarci, M. Nogueira, "" "CD-ASM: A New Queuing Paradigm to Overcome Bufferbloat Effects in HetNets," IEEE 28th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC)", Montreal, QC, Canada, October 2017.
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- C85.** F. Anjomshoa, B. Kantarci, M. Erol-Kantarci, S. Schuckers, "Detection of Spoofed Identities on Smartphones via Sociability Metrics," IEEE Intl. Conference on Communications (ICC), Paris, France, May 2017
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- C78.** G. Honan, A. Page, O.Kocabas, T. Soyata, , B. Kantarci, "Internet-of-Everything Oriented Implementation of Secure Digital Health (D-Health) Systems," 21st IEEE Symposium on Computers and Communications (ISCC), Messina, Italy, June. 2016.
- C77.** F. Anjomshoa, M. Catalfamo, D. Hecker, N. Helgeland, A.Rasch, B. Kantarci, M. Erol-Kantarci , S. Schuckers, "Mobile Behaviometric Framework for Sociability Assessment and Identification of Smartphone Users," 21st IEEE Symposium on Computers and Communications (ISCC), Messina, Italy, June. 2016.
- C76.** Z. I. Rauen, N. S. Rolfe, B. Kantarci, M. K. Banavar, W. Freitag, "A Tool for Simulation and Visualization of Distributed Estimation in Wireless Sensor Networks," IEEE Integrated Stem Education Conference (ISEC), pp. 34-36, Princeton, NJ, Mar. 2016.
- C75.** B. Kantarci, P. M. Glasser, L. Foschini, "Crowdsensing with social network-aided collaborative trust scores," in Proc. IEEE Global Communications Conference (GLOBECOM), San Diego, CA, USA, Dec. 2015.
- C74.** A. Page, T. Soyata, J-P, Couderc, M. Aktas, B. Kantarci, S. Andreescu, "Visualization of Health Monitoring Data acquired from Distributed Sensors for Multiple Patients," in Proc. IEEE Global Communications Conference (GLOBECOM), San Diego, CA, USA, Dec. 2015.

- C73.** M. Aloqaily, B. Kantarci, H. T. Mouftah, "An Auction-driven Multi-objective Provisioning Framework in a Vehicular Cloud," in Proc. IEEE GLOBECOM Workshop on Cloud Computing Systems, Networks and Applications, San Diego, CA, USA, Dec. 2015
- C72.** P. M. Glasser, O. Kocabas, B. Kantarci, T. Soyata, J. Matthews, "Energy efficient VM migration revisited: SLA assurance and minimum service disruption with available hosts, " in Proc. 12<sup>th</sup> High-Capacity Optical Networks and Enabling/Emerging Technologies-Information and Communication Technologies (HONET-ICT) Conference, Islamabad, Pakistan, Dec. 2015 (**BEST PAPER AWARD**).
- C71.** B. Kantarci, M. Erol-Kantarci, S. Schuckers, "Towards secure cloud-centric Internet of Biometric Things, " in Proc. IEEE Intl. Conference on Cloud Networking (CLOUDNET), Niagara Falls, ON, Canada, pp. 81-83, Oct. 2015.
- C70.** A. Murturi, B. Kantarci, S. Oktug, "A Reference Model for Crowdsourcing as a Service," in Proc. IEEE Intl. Conference on Cloud Networking (CLOUDNET), Niagara Falls, ON, Canada, pp. 64-66, Oct. 2015.
- C69.** M. Aloqaily, B. Kantarci, H. T. Mouftah, "A Generalized Framework for Quality of Experience (QoE)-based Provisioning in a Vehicular Cloud," in Proc. IEEE International Conference on Ubiquitous Wireless Broadband (ICUWB), Montreal, QC, Canada, October 2015.
- C68.** M. Hassanaliyagh, A. Page, T. Soyata, Gaurav Sharma, M. Aktas, G. Mateos, B. Kantarci, S. Andreescu, "Health Monitoring and Management Using Internet-of-Things (IoT) Sensing with Cloud-based Processing: Opportunities and Challenges," in Proc. IEEE International Conference on Services Computing (SCC), New York, NY, USA, pp. 285-292, 27 June-2 July 2015
- C67.** B. Kantarci, H. T. Mouftah, "Sensing Services in Cloud-Centric Internet of Things: A Survey, taxonomy and challenges," IEEE International Conference on Communications (ICC) Workshop on Cloud Computing Systems, Networks and Applications, London, UK, pp. 1865-1870, June 2015.
- C66.** I. Butun, B. Kantarci, M. Erol-Kantarci, "Anomaly detection and privacy preservation in cloud-centric Internet of Things," IEEE International Conference on Communications (ICC) Workshop on Security and Privacy for Internet of Things and Cyber-Physical Systems, London, UK, pp. 2610-2615, June 2015.
- C65.** B. Kantarci, "Cyber-Physical Alternate Route Recommendation System for Paramedics in an Urban Area," IEEE Wireless Communications and Networking Conference (WCNC), New Orleans, LA, pp. 2155-2160, Mar. 2015.
- C64.** B. Kantarci, H. T. Mouftah, "Trustworthy Crowdsourcing via Mobile Social Networks," IEEE GLOBECOM, Austin, TX, pp. 2905-2910, Dec. 2014.
- C63.** M. Aloqaily, B. Kantarci, H. T. Mouftah, "On the impact of Quality of Experience (QoE) in a vehicular cloud with various providers," 11<sup>th</sup> Intl. Conference HONET-PfE, Charlotte, NC, pp. 94-98, Dec. 2014

- C62.** N. Naas, B. Kantarci, H. T. Mouftah, "Green Realistic Design of Multi-Granular Optical Core Networks," 11<sup>th</sup> Intl. Conference HONET-PfE, Charlotte, NC, pp. 51-55, Dec. 2014
- C61.** M. Aloqaily, B. Kantarci, H. T. Mouftah, "Provisioning Delay Effect of Partaking a Trusted Third Party in a Vehicular Cloud," Global Information Infrastructure and Networking Symposium (GIIS), Montreal, QC, Canada, Sep. 2014.
- C60.** B. Kantarci, H. T. Mouftah, "Resilient optical inter-data-center network design," 16<sup>th</sup> Intl. Conference on Transparent Optical Networks (ICTON), Graz, Austria, July 2014 [Invited].
- C59.** H. T. Mouftah, B. Kantarci, "Optical inter-data-center network design under resilience requirements and dynamic electricity pricing," 16<sup>th</sup> Intl. Conference on Transparent Optical Networks (ICTON), Graz, Austria, July 2014 [Invited].
- C58.** B. Kantarci, H. T. Mouftah, "Mobility-aware Trustworthy Crowdsourcing in Cloud-Centric Internet of Things," IEEE Intl. Symposium on Computers and Communications (ISCC), Madeira, Portugal, June 2014
- C57.** T. K. Refaat, B. Kantarci, H. T. Mouftah, "Dynamic Virtual Machine Migration in a Vehicular Cloud," IEEE Intl. Symposium on Computers and Communications (ISCC)-4<sup>th</sup> Workshop on Management of Cloud Systems (MoCS) June 2014.
- C56.** M. G. Khair, B. Kantarci, H. T. Mouftah, "Delay Tolerant EPC-BGP for discovery services in EPCGlobal networks," IEEE Intl. Symposium on Computers and Communications (ISCC), Madeira, Portugal, June 2014
- C55.** B. Kantarci, H. T. Mouftah, "Reputation-based Sensing-as-a-Service for Crowd Management Over the Cloud," IEEE International Conference on Communications (ICC), Sydney, Australia, June 2014.
- C54.** M. G. Khair, B. Kantarci, H. T. Mouftah, "Hybrid Threshold-Based Distributed Discovery Service for the EPCglobal Network," Canadian Conference on Electrical and Computer Engineering, 2014.
- C53.** B. Kantarci, H. T. Mouftah, "Minimum Outage Probability Provisioning in an Energy-efficient Cloud Backbone," in Proc. of IEEE GLOBECOM, Atlanta, Georgia, Dec. 2013.
- C52.** L. Foschini, B. Kantarci, A. Corradi, H. T. Mouftah, "Dynamic Cloud Management for Efficient Stream Processing," in Proc. IEEE Symp. On Computers and Communications (ISCC)-Workshop on Management of Cloud Systems, Split, Croatia, July 2013.
- C51.** B. Kantarci, H. T. Mouftah, "Economizing the operational costs of cloud services in an optical transport network," in Proc. 15<sup>th</sup> Intl. Conference on Transparent Optical Networks (ICTON), Cartagena, Spain, June 2013 [Invited].
- C50.** N. Zaker, B. Kantarci, M. Erol-Kantarci, H. T. Mouftah, "Quality-of-Service-Aware Fiber Wireless Sensor Network Gateway Design for the Smart Grid," IEEE International Conference on

Communications (ICC) - Workshop on Optical-Wireless Integrated Technology for Systems and Networks, Budapest, Hungary, June 2013.

**C49** B. Kantarci, H. T. Mouftah, "Time of Use (ToU)-Awareness with Inter-Data Center Workload Sharing in the Cloud Backbone," in Proc. of IEEE International Conference on Communications (ICC), Budapest, Hungary, June 2013.

**C48** M. G. Khair, B. Kantarci, H. T. Mouftah, "Distributed Discovery Services via EPC-BGP for Mobile RFID," in Proc. of IEEE International Conference on Communications (ICC), Budapest, Hungary, June 2013.

**C47.** B. Kantarci, L. Foschini, A. Corradi, H. T. Mouftah, "Inter-and-Intra Data Center VM-Placement for Energy-Efficient Large-Scale Cloud Systems," in Proc. of IEEE GLOBECOM Workshop on Management and Security technologies for Cloud Computing, Anaheim, CA, USA, Dec. 2012

**C46.** N. Naas, B. Kantarci, H. T. Mouftah, "Multi-Granular Optical Transport Network Design with Dual Power State," in Proc. of IEEE GLOBECOM Workshop on Management of Emerging Networks and Services, Anaheim, CA, USA, Dec. 2012

**C45.** B. Kantarci, H. T. Mouftah, "The Impact of Time of Use (ToU)-Awareness in Energy and Opex Performance of a Cloud Backbone," in Proc. of IEEE GLOBECOM, Anaheim, CA, USA, Dec, 2012.

**C44.** D. Tafani, B. Kantarci, H. T. Mouftah, C. McArdle, L. P. Barry, "Distributed Management of Energy-Efficient Lightpaths for Computational Grids," in Proc. of IEEE GLOBECOM, Anaheim, CA, USA, Dec, 2012.

**C43.** D. Tafani, B. Kantarci, H. T. Mouftah, C. McArdle, L. P. Barry, "Energy-Efficient Lightpaths for Computational Grids," in Proc. of Int'l. Conf. on Transparent Opt. Networks (ICTON), Coventry, U.K., July, 2012

**C42.** B. Kantarci, N. Naas, H. T. Mouftah, "Energy-efficient DBA and QoS in 'long-reach' FiWi networks", Int'l. Conf. on Transparent Opt. Networks (ICTON), Coventry, U.K., July, 2012 [Invited]

**C41.** N. Naas, B. Kantarci, H. T. Mouftah, "Energy-Efficient Realistic Design and Planning of Optical Backbone with Multi-Granular Switching," in Proc. of Int'l. Conf. on Transparent Opt. Networks (ICTON), Coventry, U.K., July, 2012

**C40.** B. Kantarci, H. T. Mouftah, "Minimizing the Provisioning Delay in the Cloud Network: Benefits, Overheads and Challenges," Second Int'l Workshop on Management of Cloud Systems (MoCS), Cappadocia, TR, pp. 806-811, July, 2012.

**C39.** B. Kantarci, H. T. Mouftah, "Overcoming the Energy versus Delay Trade-off in Cloud Network Reconfiguration," IEEE Symp. on Computers and Communications (ISCC), Cappadocia, TR, pp. 53-58, July, 2012.

- C38.** N. Naas, B. Kantarci, H. T. Mouftah, "Greening the Multi-Granular Optical Transport Network Design under the Optical Reach Constraint", in IEEE Symp. on Computers and Communications (ISCC), Cappadocia, TR, pp. 177-182, July 2012.
- C37.** B. Kantarci, H. T. Mouftah, "Optimal Reconfiguration of the Cloud Network for Maximum Energy Savings," in Proc. of IEEE/ACM International Symposium on Cluster, Grid and Cloud Computing (CCGrid), pp. 835-840, May 2012, Ottawa, ON, Canada
- C36.** N. Naas, B. Kantarci, H. T. Mouftah, " Power and Cost Reduction in Optical Transport Networks by Multi-Granular Switching with Optical Reach Consideration", in Proc. of 26th Queen's Biennial Symposium on Communications, Kingston, ON, Canada, May, 2012.
- C35.** B. Kantarci, H. T. Mouftah, "Energy-Efficient Demand Provisioning in the Cloud", in Proc. of Optical Fiber Communication Conference and Exposition (OFC) and The National Fiber Optic Engineers Conference (NFOEC), March. 2012, Los Angeles, CA, USA.
- C34.** B. Kantarci, H. T. Mouftah, "Energy-Efficient Cloud Services over Wavelength-Routed Optical Transport Networks", in Proc. of IEEE GLOBECOM- Sel. Areas in Communications Symp.- Green Communication Sys. and Network Track, pp. SAC06.6.1-SAC06.6.5, Dec. 2011, Houston, TX, USA.
- C33.** M. Erol-Kantarci, B. Kantarci, H. T. Mouftah, "Cost-Aware Smart Microgrid Network Design for a Sustainable Smart Grid", in Proc. of IEEE GLOBECOM- Workshop on Smart Grid Communications and Networks, pp. 1223-1227, Dec. 2011, Houston, TX, USA.
- C32.** B. Kantarci, H.T. Mouftah, "Energy versus Delay Trade-offs in Metro-Access Convergence", in Proc. of 8<sup>th</sup> International Symp. on High Capacity Optical Networks and Enabling Technologies (HONET), Dec. 2011, Riyadh, KSA (accepted)
- C31.** N. Naas, B. Kantarci, H.T. Mouftah, "Design Considerations for Energy-Efficient Multi-Granular Optical Networks", in Proc. of 8<sup>th</sup> International Symp.on High Capacity Optical Networks and Enabling Technoogies (HONET), Dec. 2011, Riyadh, KSA (accepted).
- C30.** M. Khair, B. Kantarci, H. T. Mouftah, "Heterogeneous Clustering of Sensor Network", in Proc. of International Workshop on Emerging Technologies in Sensor Networks (EmSeNs). September 2011, pp. 939-944, Niagara Falls, Canada.
- C29.** B. Kantarci, H. T. Mouftah, "Towards Energy-efficient Hybrid Fiber-Wireless Access Networks", in Proc. of 13th International Conference on Transparent Optical Networks (ICTON), June 2011, Stockholm, Sweden [Invited].
- C28.** B. Kantarci, E. Al-Sukhni, J. H. Sarker, H. T. Mouftah, " Performance Analysis of SLA-Aware Connection Provisioning in Optical Networks", in Proc. of 13th International Conference on Transparent Optical Networks (ICTON), June 2011, Stockholm, Sweden.

- C27.** E. Al-Sukhni, B. Kantarci, J. H. Sarker, H. T. Mouftah, "Hybrid Markov Model for Availability-Guaranteed Connection Provisioning in Optical WDM Networks", in Proc. of 13th Int. Conference on Transparent Optical Networks (ICTON), June 2011, Stockholm, Sweden.
- C26.** B. Kantarci, H. T. Mouftah, "Optimization models for reliable long-reach PON deployment", in Proc. of 16<sup>th</sup> IEEE Symposium on Computers and Communications (ISCC), June 2011, Corfu, Greece.
- C25.** M. Khair, B. Kantarci, H. T. Mouftah, "Towards Cellular IP Address Assignment in Wireless Heterogeneous Sensor Networks", in Proc. of 16<sup>th</sup> IEEE Symposium on Computers and Communications (ISCC), June 2011, Corfu, Greece.
- C24.** B. Kantarci, H. T. Mouftah, "Bandwidth Distribution with Adaptive Threshold-based Optical Burst Assembly in Long-Reach EPON", in Proc. of OSA Optics & Photonics Congress: Advanced Photonics, Access Networks and In-House Communications, ATuA4.1-ATuA4.2, June 2011, Toronto, ON, Canada
- C23.** B. Kantarci, H. T. Mouftah, "Reducing the Energy Consumption of the Reliable Design of IP/WDM Networks with Quality of Protection", in Proc. of 13<sup>th</sup> Photonics North Conference, May 2011, Ottawa, ON, Canada.
- C22.** B. Kantarci, M. Khair, H. T. Mouftah, "Power Saving Clusters for Energy-Efficient Design of Fiber-Wireless Access Networks", in Proc. of International Symposium on High Capacity Optical Networks and Enabling Technologies (HONET), pp.73-78, December 2010, Cairo, Egypt
- C21.** B. Kantarci, H. T. Mouftah, "Greening the Availability Design of Optical WDM Networks", in Proc. of IEEE Globecom 2010 Workshop on Green Communications, pp.1417-1421, December 2010, Miami, FL, USA
- C20.** B. Kantarci, H. T. Mouftah, "Availability and Cost Constrained Fast Planning of Passive Optical Networks Under Various Survivability Policies", in Proc. of 35th Annual IEEE Conference on Local Computer Networks (LCN), pp.264-267, Denver,USA, October, 2010.
- C19.** B. Kantarci, H. T. Mouftah, "On SLA Constraints in Dynamic Bandwidth Allocation for Long-Reach Passive Optical Networks", in Proc. of 12th International Conference on Transparent Optical Networks (ICTON), Germany, June, 2010 [Invited].
- C18.** B. Kantarci, H. T. Mouftah, "Reliable and Fast Restoration for a Survivable Wireless-Optical Broadband Access Network", in Proc. of 12th International Conference on Transparent Optical Networks (ICTON), Germany, June, 2010.
- C17.** B. Kantarci, H. T. Mouftah, "Periodic GATE Optimization with QoS-Awareness for Long-Reach Passive Optical Networks", in Proc. of IEEE Symposium on Computers and Communications (ISCC), pp.879-884, Italy, June, 2010.



- C16.** A. Sancak, B. Kantarci, S. Oktug, "Class Based Availability Considerations in GMPLS Networks", in Proc. of IEEE Symp. on Computers and Comm.(ISCC), pp.375-380, Italy, June, 2010.
- C15.** B. Kantarci, H. T. Mouftah, "Periodic GATE Optimization (PGO) in Long-Reach Passive Optical Networks", in Proc. of 25th Queen's Biennial Symposium on Communications, pp. 230-233, Kingston, Canada, May, 2010.
- C14.** B. Kantarci, H. T. Mouftah, "SLA-Aware Protection Switching in Optical WDM Networks", in Proc. of 25th Queen's Biennial Symposium on Communications, pp. 213-216, Kingston, Canada, May, 2010.
- C13.** B. Kantarci, H. T. Mouftah, "On Geographical Placement of the ONUs in Survivable Passive Optical Networks for Long-Reach Access", in Proc of 10<sup>th</sup> INFORMS Telecommunications Conference, pp.156-158, Montreal, Canada, May 2010.
- C12.** B. Kantarci, S. Oktug, "Differentiated Availability-Constrained Connection Provisioning in Optical Networks", in Proc. of IEEE Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, April 2009.
- C11.** B. Kantarci, H. T. Mouftah, S. Oktug, "Differentiated Availability-Aware Connection Provisioning in Optical Transport Networks", in 2008 Proc. of IEEE Global Communications Conference (GLOBECOM), New Orleans, LA, USA, November, 2008.
- C10.** B. Kantarci, H. T. Mouftah, S. Oktug, "Availability Analysis and Connection Provisioning in Overlapping Shared Segment Protection for Optical Networks", in Proc. of International Symposium on Computer and Information Systems (ISCIS), Turkey, October, 2008.
- C09.** M. G. Khair, B. Kantarci, H. T. Mouftah, "Connection Provisioning Constrained to Fault Localization in All-optical Networks", in Proc. of International Symposium on Computer and Information Systems (ISCIS), Turkey, October, 2008.
- C08.** M. G. Khair, B. Kantarci, J. Zheng, H. T. Mouftah, "Performance Optimization for Fault Localization in All-Optical Networks", in Proc. of 5th Int. Conference on Broadband Communications, Networks, and Systems (BROADNETS), London, UK, Sep., 2008.
- C07.** B. Kantarci, H. T. Mouftah, S. Oktug, "Connection Provisioning with Feasible Shareability Determination for Availability-Aware Design of Optical Networks", in Proc. of 10th Int. Conf. on Transparent Optical Networks (ICTON), vol. 3, pp. 19-22, Athens, Greece, June, 2008.
- C06.** M. G. Khair, B. Kantarci, J. Zheng, H. T. Mouftah, "Optimization for minimizing fault localization time in all-optical networks", in 2008 Proc. of 10th International Conference on Transparent Optical Networks (ICTON), vol. 3, pp. 63-66, Athens, Greece, June, 2008.

- C05.** B. Kantarci, H. T. Mouftah, S. Oktug, "Arranging Shareability Dynamically for the Availability-Constrained Design of Optical Transport Networks", in Proc. of IEEE Symposium on Computers and Communications (ISCC), pp. 68-73, Marrakech, Morocco, July, 2008.
- C04.** B. Kantarci, S. Oktug, T. Altılar, "Prioritized Contention Resolution Scheme for Grid Services over OBS Networks", in Proc. of Sixth Annual Conference on Communication Networks and Services Research (CNSR), pp. 234-241, Halifax, NS, Canada, May, 2008.
- C03.** B. Kantarci, S. Oktug, T. Atmaca, "Burst Loss Rate: Is it precise enough?", in Proc. of Int. Symposium on Computer Networks (ISCN), Istanbul, Turkey, pp.173-178, June 2006.
- C02.** B. Kantarci, S. Oktug, "Adaptive Threshold Based Burst Assembly in OBS Networks", in Proc. of Canadian Conference on Electrical and Computer Engineering (CCECE), Ottawa, Canada,, pp.485-488, May 2006.
- C01.** B. Kantarci, S. Oktug, T. Atmaca, "Analyzing the Effects of Burst Assembly in Optical Burst Switching under Self-similar Traffic", in Proc. of Advanced Industrial Conference on Telecommunications (AICT), Lisbon, Portugal, pp.109-114, July 2005.

## PATENTS

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- P. Djukic, Carnes, Z. Chen, M. Simsek, B. Kantarci, "A new Ensemble Learning Method for the Detection of APT Attacks," provisional patent filed, March 2021
- A. Walenstein, A. Malton, J. Liu, M. Simsek, B. Kantarci, M. ErolKantarci, "Risk-Aware Access Control System and Related Methods" (patent filed in Dec. 2020)
- A. Walenstein, A. Malton, K. Quintal, B. Kantarci, M. ErolKantarci, "Document Management System Having Context-Based Access Control and Related Methods" (patent filed in July 2019)

## INVITED TALKS & KEYNOTES & PANEL DISCUSSIONS

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- 26. Upcoming:** (2021) Invited Talk: Exploring the Boundaries of Artificial Intelligence-Backed Vehicular Sensing, Auto Sensors'21, Detroit MI, October 2021
- 25. Upcoming:** (2021) Keynote: Machine Learning from Offensive and Defensive Standpoints for Trustworthy IoT Sensing, Workshop on Wireless Intelligent Secure Trustable Things: bringing IoT and AI together in IEEE 7th World Forum on Internet of Things, June-July 2021.
- 24. Upcoming:** (2021) "Keynote: AI-Backed Threat Modeling and Defense Strategies in IoT Sensing," IEEE DCOSS 2021 - Workshop on Decentralized AI and Computing on IoT (scheduled for June 2021)
- 23.** (2021) Panel Talk: "Smart, Connected and Secure Communities via AI-Backed IoT Services", IoT North, ThinkFest 3.0, May 2021.
- 22.** (2021) "Trustworthiness and Truthfulness Issues of Crowd-Sensed Data", ACM Distinguished Speaker Lecture, hosted by ACM Washington DC (Jan 2021)
- 21.** (2020) "How CAVs will impact society?", Panelist at CAV20 Canada
- 20.** (2020) The Role of AI-Driven ICT Strategies in Combating COVID-19 Pandemic, Panelist at COVID-19 Panel in IEEE International Workshop on Computer-Aided Design and Modeling of Communication Links and Networks (CAMAD).
- 19** (2020) On Coalitional and Non-Coalitional Games in the Design of User Incentives for Dependable Mobile Crowdsensing Services, Invited Talk, IEEE Service Oriented Systems Engineering.

18. (2020) “Trustworthiness of big crowd-sensed data” ACM Distinguished Speaker hosted by IEEE Kharagpur Section
17. (2019) Bridging AI and adversarial AI for secure non-dedicated sensing in smart spaces, 2nd Ottawa AI Alliance Workshop, Ottawa, ON, Canada
16. (2019) Keynote Speech: AI-backed resiliency for "dedicated" and "non-dedicated" sensor networks against misbehaviour. 11th IEEE International Workshop on Resilient Networks Design and modeling (RNDM), Nicosia, Cyprus
15. (2019) Panelist at uOttawa Innovates Series in Kanata North: “Cybersecurity, Industry Collaborations and Smart Cities”
14. (2019) Behavioral biometrics and continuous authentication, ACM Distinguished Speaker Lecture, Marmara University, Istanbul
13. (2019) Trustworthiness and truthfulness issues in big crowd-sensed data. ACM Distinguished Speaker, Istanbul Technical University
12. (2019). Empowering behaviometrics for authentication. ACM Distinguished Speaker Lecture, Istanbul Technical University
11. (2019) RECODIS-European COST Project Invited Talk: Mobile Crowdsensing for Crowd Management in Disasters: Challenges, Solutions, Opportunities. Resilient Communication Services Protecting Enduser Applications from Disaster-based Failures" (RECODIS) Project Meeting (by European Cooperation of Science and Technology), Nicosia, Cyprus
10. (2019) Panelist at Disaster Resilience of Networks Panel in 11th IEEE International Workshop on Resilient Networks Design and modeling (RNDM), Nicosia, Cyprus
9. (2017) Towards D-Health Solutions on IoT-Data Analytics Ecosystems. NRC-NSERC-MOST Workshop on Medical Devices Enable by Internet of Things (IoT) October 2017, Ottawa, ON, Canada
8. (2016) IEEE Talks IoT: IoT and Green ICT, IEEE IoT Initiative
7. (2016) IEEE Talks Big Data: Big Data and Green ICT, IEEE Big Data Initiative
6. (2015) with Houbing Song and Periklis Chatzimisios “Green Networking and Data”. 1st IEEE Big Data Initiative Standards Workshop, National Institute of Standards Technology (NIST), Gaithersburg, MD, United States
5. (2015) Summer School: Foundations, contemporary issues and methodologies in cloud communications, ITU, Turkey
4. (2014) with Hussein Mouftah “Energy efficient design of optical inter-datacenter networks”. 56th Canadian Operations Research Society (CORS) Annual Conference, Ottawa, ON, Canada
3. (2014) with Hussein Mouftah. Resilient inter-data center network design over an optical backbone. 16th Int.’l Conference on Transparent Optical Networks (ICTON), Graz, Austria
2. (2013) Energy-efficient M2M communications: Current state of the art, challenges and directions. Wireless Sensor Networks for the e-Society (WiSense) Seminar Series #90, Ottawa, Canada
1. (2012) Energy-Efficiency in a Hybrid Access Network based on EPON-LTE-A Convergence,. Wireless Sensor Networks for the e-Society (WiSense) seminar series #74, Ottawa, ON, Canada

## PROFESSIONAL ACTIVITIES AND MEMBERSHIPS

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### Editorial Board Member

IEEE Internet of Things Journal	<b>2020-Present</b>
IEEE Networking Letters	<b>2018 – Present</b>
Elsevier Vehicular Communications	<b>2019-Present</b>
Sensors Journal	<b>2019-Present</b>
IEEE Communications Surveys & Tutorials	<b>2014-Present</b>

IEEE Transactions on Green Communications and Networking	<b>2016-Present</b>
IEEE Transactions on Cloud Computing (Steering Committee)	<b>2017- 2019</b>
<b>Special Issue Guest Editor</b>	
IEEE Communications Magazine, Special Issue on Wireless Energy Transfer in Future Networks	<b>2022</b>
Springer Multimedia Tools and Application, Special Issue on Artificial intelligence in deep learning algorithms for multimedia analysis	<b>2020</b>
Sensors Journal, Special Issue on Artificial Intelligence Methodologies for Networked Sensors in Smart Cities	<b>2020</b>
Sensors Journal, Sensors Journal, Special Issue on Emerging Algorithms and Applications in Vision Sensors System based on Artificial Intelligence	<b>2018</b>
Sensors Journal, Special Issue on Realization of Large-Scale Mobile Crowd Sensing Experiments	<b>2018</b>
Elsevier Computer Communications-Special Issue on Energy-aware Design for Sustainable 5G Networks	<b>2017</b>
IEEE Transactions on Cloud Computing-Special Issue on Mobile Clouds	<b>2015</b>
IEEE Access Special Issue on Advances in Vehicular Clouds	<b>2015</b>
<b>Technical Committee Officer</b>	
Chair of IEEE ComSoc Communication Systems Integration and Modeling Technical Committee	<b>2018-2020</b>
Vice-chair of IEEE ComSoc Communication Systems Integration and Modeling Technical Committee	<b>2017- 2018</b>
Secretary of IEEE ComSoc Communication Systems Integration and Modeling Technical Committee	<b>2015-2017</b>
Information Officer of IEEE Sustainable Computing Special Technical Committee	<b>2014-2015</b>
<b>General Co-Chair</b>	
IEEE International Workshop on Computer-Aided Modeling Analysis and Design of Communication Links and Networks (IEEE CAMAD)	<b>2021</b>
IEEE Black Sea Conference on Communications (BlackSeaCom)	<b>2021</b>
IEEE International Workshop on Computer-Aided Modeling Analysis and Design of Communication Links and Networks (IEEE CAMAD)	<b>2016</b>
<b>Technical Program / Symposium / Track (Co-)Chair</b>	
IEEE International Smart Cities Conference, Track Co-Chair: Security and Privacy	<b>2021</b>
IEEE Canadian Conference on Electrical and Computer Engineering , Track Co-chair: Cybersecurity in Systems	<b>2021</b>
IEEE Black Sea Conference on Communications (BlackSeaCom)	<b>2020</b>
IEEE Vehicular Technology Conference (VTC)-Fall -- IoT, M2M, Sensor Networks, and Ad-Hoc Networking Track	<b>2019</b>

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IEEE International Conference on Communications and Networking (ICNC)- Machine Learning in Communications and Networking Symposium.	<b>2019</b>
The 5th International Conference on Cloud and Big Data Computing-Big Data Science and Analytics Track	<b>2019</b>
IEEE Sustainability through ICT Summit (StICT)	<b>2019</b>
IEEE Global Communications Conference (GLOBECOM)-Communication Quality and Reliability Modelling Symposium	<b>2018</b>
IEEE Mobile Cloud – 6th IEEE International Conference on Mobile Cloud Computing, Services, and Engineering	<b>2018</b>
IEEE International Conference on Communications and Networking (ICNC)- Internet Services and Applications Track.	<b>2018</b>
IEEE Vehicular Technology Conference (VTC)-Spring -- Green Communications and Networks Track	<b>2016</b>
IEEE Workshop on Big Data Analytics for Smart and Connected Health (BIGDATA4HEALTH)	<b>2016</b>
IEEE Intl. Symposium on Computers and Communications (ISCC)	<b>2016</b>
12 <sup>th</sup> ACM Intl. Symposium on QoS and Security for Wireless and Mobile Networks (Q2SWinet)	<b>2016</b>
IEEE Intl. Conference on Cloud Networking (CLOUDNET 2015)	<b>2015</b>
2nd International Workshop on Cloud Computing Systems, and Networks, and Applications (CCSNA) in IEEE GLOBECOM 2014	<b>2014</b>
IEEE International Workshop on Computer-Aided Modeling Analysis and Design of Communication Links and Networks (IEEE CAMAD)	<b>2014</b>
<b>Workshop Co-Chair</b>	
4th International Workshop on Cloud Computing Systems, and Networks, and Applications (CCSNA) in IEEE GLOBECOM 2015	<b>2015</b>
International Workshop on Management of Cloud Systems (MoCS)	<b>2012-2013</b>
IEEE Symposium on Computers and Communications (ISCC)	<b>2012</b>
<b>Memberships</b>	
IEEE Senior Member (S'05, M'09, SM'12)	
ACM Senior Member (M'15, SM'20)	
IEEE Vehicular Technology Society Member	
IEEE Intelligent Transportation Systems Society Member	
IEEE Communications Society Member	
IEEE Signal Processing Society Member	
Professional Engineers Ontario (PEO)	