Assoc. Prof. ÖMER KORÇAK

Personal Information

Email: omer.korcak@marmara.edu.tr
Web: https://avesis.marmara.edu.tr/omer.korcak

International Researcher IDs
ScholarID: ShxihEkAAAAJ
ORCID: 0000-0003-4419-556X
ScopusID: 9638873200
Yoksis Researcher ID: 34563

Biography

Ömer Korçak received his B.S. (with high honors), M.S. and Ph.D degrees all in Computer Engineering from Bogazici University, in 2002, 2004, and 2009 respectively. Currently, he is an associate professor and vice chair in Marmara University, Computer Engineering Department, Istanbul, Turkey. In 2011, he worked as a visiting researcher at Deutsche Telekom Laboratories, Berlin. His main research interests are in the general area of network optimization, network economics and game theory, with applications to wireless and broadband networks.

Education Information

Post Doctorate, Technische Universitaet Berlin, Deutsche Telekom Laboratories, Germany 2011 - 2012
Doctorate, Bogazici University, Institute Of Science, Bilgisayar Mühendisliği (Dr), Turkey 2004 - 2009
Postgraduate, Bogazici University, Institute Of Science, Bilgisayar Mühendisliği (Yl) (Tezli), Turkey 2002 - 2004
Undergraduate, Bogazici University, Faculty Of Engineering, Department Of Computer Engineering, Turkey 1997 - 2002

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Routing and Network Mobility Management in Next Generation Satellite Networks, Boğaziçi Üniversitesi, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği (Dr), 2009
Postgraduate, Learning-based Wavelength Assignment in Optical Burst Switching Networks, Boğaziçi Üniversitesi, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği (Yl) (Tezli), 2004

Research Areas

Wireless Communication, Computer Sciences, algorithms, Information Security and Reliability, Computer Networks, Game Theory

Academic Titles / Tasks

Assistant Professor, Marmara University, Faculty of Engineering, Computer Engineering, 2011 - Continues

Academic and Administrative Experience

Marmara University, Faculty of Engineering, Computer Engineering, 2012 - Continues

Advising Theses

Korçak Ö., Path and Task Planning for Multiple Mobile Robots in Smart Warehouse, Postgraduate, A.BOLU(Student), 2021

Korçak Ö., DESIGN OF A QUEUE-BASED MICROSERVICES ARCHITECTURE AND PERFORMANCE COMPARISON WITH MONOLITH ARCHITECTURE, Postgraduate, K.CEBECİ(Student), 2019

Korçak Ö., Internet of things based waste and service management in quick service restaurants, Postgraduate, K.AYTAÇ(Student), 2018

Korçak Ö., Energy and data rate modeling in user provided networks with incentive mechanisms, Postgraduate, K.ULUDAĞ(Student), 2018

KORÇAK Ö., Gap free load balancıng ın ıwreless lan networks usıng cell breathıng technıque, Postgraduate, İ.Demirci(Student), 2014

Korçak Ö., Development of supporter sharing sites: Weaknesses and shortcomings of existing social networks and a case study, Postgraduate, Y.YILMAZ(Student), 2013

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Distribution Games: A New Class of Games with Application to User Provided Networks**
Tasci S. E., Shalom M., KORÇAK Ö.
IEEE Access, vol.10, pp.122796-122811, 2022 (SCI-Expanded)

II. **IoT based intelligence for proactive waste management in Quick Service Restaurants**
Aytac K., KORÇAK Ö.
JOURNAL OF CLEANER PRODUCTION, vol.284, 2021 (SCI-Expanded)

III. **Adaptive Task Planning for Multi-Robot Smart Warehouse**
Bolu A., KORÇAK Ö.
IEEE ACCESS, vol.9, pp.27346-27358, 2021 (SCI-Expanded)

IV. **Sequential bargaining based incentive mechanism for collaborative Internet access**
Uludag K., Tasci S. E., KORÇAK Ö.
JOURNAL OF NETWORK AND COMPUTER APPLICATIONS, vol.170, 2020 (SCI-Expanded)

V. **Cell breathing algorithms for load balancing in Wi-Fi/cellular heterogeneous networks**
Demirci I., KORÇAK Ö.
COMPUTER NETWORKS, vol.134, pp.140-151, 2018 (SCI-Expanded)

VI. **Operator Collusion and Market Regulation Policies for Wireless Spectrum Management**
KORÇAK Ö., Iosifidis G., Alpcan T., Koutsopoulos I.
IEEE TRANSACTIONS ON MOBILE COMPUTING, vol.15, no.10, pp.2537-2549, 2016 (SCI-Expanded)

VII. **Efficient integration of HAPs and mobile satellites via free-space optical links**
KORÇAK Ö., ALAGÖZ F.
COMPUTER NETWORKS, vol.55, no.13, pp.2942-2953, 2011 (SCI-Expanded)

VIII. **Virtual topology dynamics and handover mechanisms in Earth-fixed LEO satellite systems**
KORÇAK Ö., ALAGÖZ F.
COMPUTER NETWORKS, vol.53, no.9, pp.1497-1511, 2009 (SCI-Expanded)

IX. **Exploring the routing strategies in next-generation satellite networks**

ALAGÖZ F., KORÇAK Ö., JAMALIPOUR A.

IEEE WIRELESS COMMUNICATIONS, vol.14, no.3, pp.79-88, 2007 (SCI-Expanded)

X. **Priority-based adaptive routing in NGEO satellite networks**

KORÇAK Ö., Alagoez F., JAMALIPOUR A.

INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS, vol.20, no.3, pp.313-333, 2007 (SCI-Expanded)

Articles Published in Other Journals

I. **AQM-of-Things: Special Queue Management Approach for Internet of Things**

AYTAÇ K., KORÇAK Ö.

Avrupa Bilim ve Teknoloji Dergisi, vol.20, pp.171-180, 2020 (Peer-Reviewed Journal)

II. **Design of an Enterprise Level Architecture Based on Microservices**

Cebeci K., KORÇAK Ö.

Bilişim Teknolojileri Dergisi, vol.13, no.4, pp.357-371, 2020 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. **CL-FedFR: Curriculum Learning for Federated Face Recognition**

Dube D. C., ERDEM ERALP E., KORÇAK Ö.

19th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications, VISIGRAPP 2024, Rome, Italy, 27 - 29 February 2024, vol.2, pp.845-852

II. **Dark Activity Detection in AIS-Based Maritime Networks**

Gorkem B. N., Caglayan B., Karaca E., Karabulut C., KORÇAK Ö.

34th Conference of Open Innovations Association FRUCT, FRUCT 2023, Riga, Latvia, 15 - 17 November 2023, pp.35-40

III. **Multi-Tenant Management in Secured IoT Based Solutions**

Aytac K., KORÇAK Ö.

32nd Conference of Open Innovations Association FRUCT, FRUCT 2022, Tampere, Finland, 9 - 11 November 2022, vol.2022-November, pp.56-64

IV. **AQMoT: Implementation of Special Queue Management Approach for Internet of Things**

AYTAÇ K., ÖZDEMİR H., TÜRKOĞLU M., DİLMAÇ M. M., KORÇAK Ö.

30th Conference of Open Innovations Association FRUCT, Oulu, Finland, 27 October 2021

V. **Path Planning for Multiple Mobile Robots in Smart Warehouse**

BOLU A., KORÇAK Ö.

The 7th International Conference on Control, Mechatronics and Automation, Delft, Netherlands, 6 - 08 November 2019

VI. **A Novel Genetic Algorithm Selection Method and Implementation in IoT Domain**

AYTAÇ K., AĞLARCI B., KORÇAK Ö.

Proceedings of the 25th Conference of Open Innovations Association FRUCT, Helsinki, Finland, 5 - 08 November 2019

VII. **On fair and efficient bandwidth sharing in user provided networks**

Tasci S. E., KORÇAK Ö.

33rd International Conference on Information Networking, ICOIN 2019, Kuala-Lumpur, Malaysia, 9 - 11 January 2019, pp.442-447

VIII. **IoT Based Smart Staff Allocator in Quick Service Restaurants**

Aytac K., KORÇAK Ö.

23rd Conference of Open Innovations Association FRUCT, Bologna, Italy, 13 - 16 November 2018, pp.48-54

IX. **IoT edge computing in quick service restaurants**

AYTAÇ K., KORÇAK Ö.

16th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), 2018, 7 - 11 May 2018

X. **Energy and Rate Modeling of Data Download over LTE with respect to Received Signal Characteristics**

Uludag K., KORÇAK Ö.

27th International Telecommunication Networks and Applications Conference (ITNAC), Melbourne, Australia, 22 - 24 November 2017, pp.430-435

XI. **User Provided Network System with Incentive Mechanism**

Ozlu A., Uludag K., KORÇAK Ö.

25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017

XII. **Incentivizing User Provided Connectivity for Enhanced Quality of Service**

Tasci S. E., KORÇAK Ö.

27th IEEE Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC), Valencia, Spain, 4 - 08 September 2016, pp.1761-1767

XIII. **Gap-free Load Balancing Algorithms in Wireless LANs using Cell Breathing Technique**

Demirci I., KORÇAK Ö.

8th IEEE International Conference on Advanced Networks and Telecommunication Systems - (IEEE ANTS), New Delhi, India, 14 - 17 December 2014

XIV. **Competition and Regulation in a Wireless Operator Market: An Evolutionary Game Perspective**

KORÇAK Ö., Iosifidis G., Alpcan T., Koutsopoulos I.

6th International Conference on Network Games, Control and Optimization (NetGCooP), Avignon, France, 28 - 30 November 2012, pp.17-24

XV. **Collusion of operators in wireless spectrum markets**

KORÇAK Ö., ALPCAN T., IOSIFIDIS G.

10th International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt), 14 - 18 May 2012

XVI. **Equilibrium strategies in a channel sensing game in cognitive radio networks**

Korçpak Ö.

8th IEEE and IFIP International Conference on Wireless and Optical Communications Networks, WOCN2011, Paris, France, 24 - 26 May 2011

XVII. **Link layer handover in earth fixed LEO satellite systems**

KORÇAK Ö., ALAGÖZ F.

IEEE International Conference on Communications (ICC), 14 - 18 June 2009

XVIII. **Efficient Networking in an Integrated HAP and Mobile Satellite Systemwith Optical Links**

KORÇAK Ö., ALAGÖZ F.

WOCN: 2009 IFIP INTERNATIONAL CONFERENCE ON WIRELESS AND OPTICALCOMMUNICATIONS NETWORKS, 19 - 21 March 2009, pp.207-211

XIX. **Multi-state virtual network architecture for next generation satellite networks**

KORÇAK Ö., ALAGÖZ F.

IEEE GLOBECOM, 26 - 30 November 2007

XX. **Optimal beam management in earth-fixed satellite systems**

Korçak Ö., Alagöz F.

2007 International Workshop on Satellite and Space Communication, IWSSC'07, Salzburg, Austria, 12 - 14 September 2007, pp.43-47

XXI. **Analysis of priority based adaptive routing in satellite networks**

KORÇAK Ö., ALAGÖZ F.

International Symposium on Wireless Communication Systems, 10 - 12 September 2007

XXII. **Deflection routing over prioritized intersatellite links in leo satellite networks**

KORÇAK Ö., ALAGÖZ F.

ICTTA, 24 - 28 April 2006

XXIII. **A new approach for wavelength assignment in optical burst switching networks**

Korçak Ö., Zeren M., Alagöz F.

2005 International Conference on Wirelessand Optical Communications Networks, Dubai, United Arab Emirates, 6 - 08 March 2005, pp.131-135

XXIV. **Performance evaluation of adaptive and static routing algorithms and contention resolution techniques in LEO satellite constellations**

Korçak Ö., Kaya I., Çalikli H. G., Alagöz F.

RAST 2005 - 2nd International Conference on Recent Advances in Space Technologies, İstanbul, Turkey, 9 - 11 June 2005, vol.2005, pp.207-212

XXV. **Priority Based Adaptive Shortest Path Routing in IP over LEO Satellite Networks**

KORÇAK Ö., ALAGÖZ F.

23rd AIAA international Communication Satellite Systems Conference (ICSSC'05), 23 - 25 September 2005

Supported Projects

Korçak Ö., Soytürk M., TUBITAK Project, Wi-Fi Sensörler Yardımıyla Wi-Fi Erişiminin ve Veri Trafiğinin İzlenmesi, 2017 - 2020

Korçak Ö., TUBITAK Project, Incentive Mechanisms in User Provided Networks, 2015 - 2019

Korçak Ö., Project Supported by Higher Education Institutions, Kablosuz Spektrum Piyasasında Operatörlerin Anlaşarak Tekelleşmesi ve Buna Karşı Alınabilecek Tedbirler, 2012 - 2016

Metrics

Publication: 37

Citation (WoS): 120

Citation (Scopus): 194

H-Index (WoS): 5

H-Index (Scopus): 5

Non Academic Experience

Tekhnelogos

TU-Berlin (Deutsche Telekom Laboratories)