Asst. Prof. SELÇUK CEVHER

Personal Information

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International Researcher IDs
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Publons / Web Of Science ResearcherID: R-6661-2019
Yoksis Researcher ID: 188426

Biography

Selcuk Cevher received his MSc and PhD degrees from the Department of Computer Engineering at Karadeniz Technical University, Turkey in 2005 and 2016, respectively. From 2005 to 2008, he worked as a research assistant at the Department of Computer Science at City University of New York, USA. From 2007 to 2008, he worked as a graduate co-op in Telcordia Technologies, Inc., New Jersey. He has been working as an assistant professor since 2017 at the Department of Computer Engineering at Karadeniz Technical University. His research interests include real-time communications, network security and embedded systems.

Education

Doctorate, Karadeniz Technical University, Fen Bilimleri Ens., Bilgisayar Müh., Turkey 2010 - 2016
Doctorate, City University of New York, Graduate Center, Computer Science, United States Of America 2005 - 2010
Postgraduate, Karadeniz Technical University, Fen Bilimleri Ens., Bilgisayar Müh., Turkey 2000 - 2004
Undergraduate, Karadeniz Technical University, Mühendislik Fak., Bilgisayar Müh., Turkey 1996 - 2000

Foreign Languages

English, C1 Advanced

Research Areas

Computer Sciences, Computer Networks, Communications and Network Protocols, Data Routing, Network Architecture, Engineering and Technology

Academic Positions

Assistant Professor, Karadeniz Technical University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2017 - Continues
Lecturer, Karadeniz Technical University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2010 - 2017
Expert, Karadeniz Technical University, Mühendislik Fakültesi, Bilgisayar Müh., 2004 - 2005

Research Assistant, Karadeniz Technical University, Fen Bilimleri Ens., Bilgisayar Müh., 2000 - 2004

Academic and Administrative Experience

Courses

Doctorate
Real-Time Communications, Doctorate, 2023 - 2024
Software Defined Networks, Doctorate, 2019 - 2020
Undergraduate
Programming-I, Undergraduate, 2023 - 2024
Automata Theory, Undergraduate, 2019 - 2020
Bilgisayar Mimarisi, Undergraduate, 2016 - 2017

Supervised Theses

Cevher S., A novel iterated integer linear programming approach for IEEE 802.1time sensitive network scheduling,
Postgraduate, A.KEREM(Student), 2022
Cevher S., Multi topology routing based traffic optimization for IEEE 802.1 time sensitive networking, Postgraduate,
Ö.KAĞAN(Student), 2022
Cevher S., Çoklu yönlendirme konfigürasyonlarının çizge büyütme yaklaşımı ile iyileştirilmesi ve performans analizi,
Postgraduate, M.TOPSAKAL(Student), 2020

Jury Memberships

Doctorate, Doctorate, Karadeniz Teknik Üniversitesi, July, 2023
Doctorate, Doctorate, Karadeniz Teknik Üniversitesi, December, 2022
Doctorate, Doctorate, Karadeniz Teknik Üniversitesi, December, 2021
Doctorate, Doctorate, Karadeniz Teknik Üniversitesi, December, 2021

Journal articles indexed in SCI, SSCI, and AHCI

I. **Enhanced conflict-aware iterated integer linear programming for IEEE 802.1Qbv Time-Sensitive
   Network scheduling**
   Ozkan A. K., CEVHER S.
   INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS, vol.37, no.17, 2024 (SCI-Expanded)
II. **Multi-Topology Routing based traffic optimization for IEEE 802.1 Time Sensitive Networking**
   Demir Ö. K., CEVHER S.
   Real-Time Systems, vol.59, no.2, pp.123-159, 2023 (SCI-Expanded)
III. **Topology-Aware Multiple Routing Configurations for Fault Tolerant Networking**
   CEVHER S., ULUTAŞ M., Hokelek I.
   JOURNAL OF NETWORK AND SYSTEMS MANAGEMENT, vol.24, no.4, pp.944-973, 2016 (SCI-Expanded)
IV. **Enhancing Multiple Routing Configurations through systematic analysis of topological characteristics**
   CEVHER S., ULUTAŞ M., HÖKELEK I.
   INTERNATIONAL JOURNAL OF NETWORK MANAGEMENT, vol.26, no.3, pp.176-198, 2016 (SCI-Expanded)

Papers Presented at Peer-Reviewed Scientific Conferences

I. **Impact Analysis of Denial of Service Attacks in IEEE 802.1 Time Sensitive Networking**
Topsakal M., Cevher S.
2022 30th Signal Processing and Communications Applications Conference (SIU), 15 May 2022, (Full Text)

II. **IEEE 802.1 Zaman Hassas Haberlesme icin K-En-Kisa Yol Esasli Guzergah Planlama**
Demir Ö. K., Cevher S.
2nd International Conference on Applied Engineering and Natural Sciences , Konya, Turkey, 10 - 13 March 2022, pp.1, (Full Text)

III. **A High-performance Integer Linear Programming Based Computation for Traffic Schedules in IEEE 802.1 Time Sensitive Networks**
Özkan A. K., Cevher S.
International Information Congress, Batman, Turkey, 17 - 19 February 2022, pp.1, (Full Text)

IV. **An Omnet plus plus Simulation for Performance Analysis of ARINC 664 P7 Avionics Data Network**
Akpolat E. C., Seker M., CEVHER S., Sapla E., Ata S. O.
28th Signal Processing and Communications Applications Conference (SIU), ELECTR NETWORK, 5 - 07 October 2020, (Full Text)

V. **Enhancement Of Multiple Routing Configurations Based on Graph Augmentation**
TOPSAKAL M., CEVHER S.
28th Signal Processing and Communications Applications Conference (SIU), ELECTR NETWORK, 5 - 07 October 2020, (Full Text)

VI. **TCAM-Aware Multi Topology Routing Based Failure Protection For Software Defined Networks**
CEVHER S., Hokelek I.
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018, (Full Text)

VII. **A Fault Tolerant Software Defined Networking Architecture for Integrated Modular Avionics**
CEVHER S., Mumcu A., Caglan A., Kurt E., Peker M. K., Hokelek I., Altun S.
IEEE/AIAA 37th Digital Avionics Systems Conference (DASC), London, Canada, 23 - 27 September 2018, pp.354-362, (Full Text)

VIII. **Multi Topology Routing Based Failure Protection For Software Defined Networks**
CEVHER S.
IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom), Batumi, Georgia, 4 - 07 June 2018, pp.46-50, (Full Text)

IX. **Delay-Aware Network Optimization in LTE Based High-Speed Railway Wireless Networks**
RÜSTEM A. H., CEVHER S., ÇIRPAN H. A.
Thirteenth International Conference on Wireless and Mobile Communications, 23 - 27 July 2017, (Full Text)

X. **Multi Topology Routing Based Failure Protection For Software Defined 5G Networks**
CEVHER S., Hokelek I.
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017, (Full Text)

XI. **Multiple Routing Configurations for Fast Re-route in Software Defined Networks**
CEVHER S., ULUTAŞ M., Altun S., Hökelek İ.
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.993-996, (Full Text)

XII. **Multi Topology Routing Based IP Fast Re-Route for Software Defined Networks**
CEVHER S., ULUTAŞ M., ALTUN S., HÖKELEK I.
IEEE Symposium on Computers and Communication (ISCC), Messina, Italy, 27 June - 01 July 2016, pp.1224-1226, (Full Text)

XIII. **Multiple Routing Configurations for Fast Re-Route in Software Defined Networks**
CEVHER S., ULUTAŞ M., ALTUN S., HÖKELEK I.
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016,

pp.993-996, (Full Text)

XIV. **An Automated Topological Analysis of Multiple Routing Configurations**
CEVHER S., ULUTAŞ M., HÖKELEK I.
36th IEEE Sarnoff Symposium, New-Jersey, United States Of America, 20 - 22 September 2015, pp.99-104, (Full Text)

XV. **Performance Evaluation of Multiple Routing Configurations**
CEVHER S., ULUTAŞ M., HOKELEK I.
21st Signal Processing and Communications Applications Conference (SIU), CYPRUS, 24 - 26 April 2013, (Full Text)

XVI. **Trade-off Analysis of Multi Topology Routing Based IP Fast Reroute Mechanisms**
CEVHER S., ULUTAŞ M., HOKELEK I.
IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS), Turin, Italy, 14 - 19 April 2013, pp.157-162, (Full Text)

XVII. **An Integrated Soft Handoff Approach to IP Fast Reroute in Wireless Mobile Networks**
CEVHER S., Chen T., Hokelek I., Kang J., Kaul V., Lin Y. J., Pang M., Rodoper M., Samtani S., Shah C., et al.
COMSNETS, Bangalore, India, 5 - 09 January 2010, pp.1-10, (Full Text)

XVIII. **Efficient Management of Multicast Communications in Mission-Critical Networks**
CEVHER S., Uyar U., Fecko M., Sucec J., Samtani S.
IEEE Sarnoff, Princeton, United States Of America, 30 March - 01 April 2009, pp.1-7, (Full Text)

XIX. **Testbed Implementations of Loop-Free Soft Handoff in Wireless Battlefield Networks**
Hokelek I., CEVHER S., Fecko M., Gurung P., Samtani S., Zhang Z., Staikos A., Bowcock J.
Army Science, Orlando, United States Of America, 1 - 04 December 2008, pp.1-8, (Full Text)

XX. **Interest-Aware and Bandwidth Efficient Multicast Group Planning**
CEVHER S., Uyar U., Fecko M., Sucec J., Samtani S.
MILCOM, San Diego, United States Of America, 16 - 19 November 2008, pp.1-7, (Full Text)

XXI. **Multicast Planning for Mission-Critical Networks**
CEVHER S., Uyar U., Fecko M., Sucec J., Samtani S.
IEEE Sarnoff, Princeton, United States Of America, 28 - 30 April 2008, pp.1-5, (Full Text)

XXII. **Network Planning for Multicast Using Partitioned Virtual User Domains**
Ma X., CEVHER S., Uyar Ü., Fecko M., Sucec J., Samtani S.
MMNS, San Jose, United States Of America, 31 October - 02 November 2007, pp.113-124, (Full Text)

Other Publications

I. **TOPOLOGY-AWARE FAST RE-ROUTE ALGORITHMS FOR FAULT TOLERANT NETWORKING (PhD THESIS)**
CEVHER S.
Other, pp.1-109, 2016

II. **Loop-Free IP Fast Reroute Using Local and Remote LFAPs**
Hokelek I., CEVHER S., Chen T., Fecko M., Gurung P., Samtani S., Sucec J.
Technical Report, pp.1-10, 2008

Patent

Cevher S., Failure Protection For Software Defined Networks Using Multi-Topology Routing Based Fast Reroute, Patent, CHAPTER H Electricity, The Invention Registration Number: US 10110472 B2 , Standard Registration, 2018

Activities in Scientific Journals

Scientific Project Refereeing

TUBITAK Project, 1501 - Industry R & D Projects Support Program, December 2022
KOSGEB, March 2022
KOSGEB, December 2021
TUBITAK Project, 1501 - Industry R & D Projects Support Program, October 2021
TUBITAK Project, 1507 - TÜBİTAK SME R&D Start Support Program, November 2020
TUBITAK Project, My support program is not listed (Old), October 2020
TUBITAK Project, 1507 - TÜBİTAK SME R&D Start Support Program, May 2020
TUBITAK Project, 1501 - Industry R & D Projects Support Program, April 2020
TUBITAK Project, 1501 - Industry R & D Projects Support Program, March 2020

Scientific Consultations

TÜBİTAK BİLGEM, Project Consultancy, Karadeniz Technical University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, Turkey, 2019 - 2020
CTech Bilişim Teknolojileri A.Ş., Scientific Consultancy, Karadeniz Technical University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, Turkey, 2010 - 2013

Metrics

Publication: 29
Citation (WoS): 12
Citation (Scopus): 20
H-Index (WoS): 2
H-Index (Scopus): 3

Non Academic Experience

TÜBİTAK BİLGEM, Bilimsel Danışmanlık
CTech Bilişim Teknolojileri AŞ., Bilimsel Danışmanlık
Business Establishment Private, Ctech Bilişim Teknolojileri A.Ş.
CTech Bilişim Teknolojileri A.Ş., Yazılım Mühendisi
Business Organization (private), Telcordia Technologies
Telcordia Technologies, Graduate Co-op