

## Asst. Prof. MEHMET DEMİRCİ

### Personal Information

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### Education Information

Doctorate, Georgia Institute of Technology, Bilgisayar Bilimi, United States Of America 2006 - 2013

Undergraduate Double Major, Purdue University, Matematik, United States Of America 2002 - 2006

Undergraduate, Purdue University, Bilgisayar Bilimi, United States Of America 2002 - 2006

### Foreign Languages

English, C2 Mastery

### Dissertations

Doctorate, Facilitating the Provision of Auxiliary Support Services for Overlay Networks, Georgia Institute of Technology, Computer Science, 2013

### Research Areas

Information Security and Reliability, Computer Networks

### Academic Titles / Tasks

Assistant Professor, Gazi University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2014 - Continues

Research Assistant, Georgia Institute of Technology, College Of Computing, School Of Computer Science, 2006 - 2013

### Academic and Administrative Experience

Fakülte Yönetim Kurulu Üyesi, Gazi University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2016 - Continues

Gazi University, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, 2015 - 2020

### Courses

Formal Languages and Automata, Undergraduate, 2018 - 2019, 2019 - 2020, 2020 - 2021

Algorithm Analysis and Design, Undergraduate, 2015 - 2016, 2019 - 2020, 2020 - 2021

Software-Defined Networks, Postgraduate, 2014 - 2015, 2015 - 2016, 2016 - 2017, 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021

Data Communication, Undergraduate, 2020 - 2021

New Generation Network Security, Postgraduate, 2014 - 2015, 2015 - 2016, 2016 - 2017, 2017 - 2018, 2018 - 2019, 2020 - 2021

Advanced Computer Networks, Postgraduate, 2014 - 2015, 2015 - 2016, 2016 - 2017, 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021

Computer Programming I, Undergraduate, 2018 - 2019

Operating Systems, Undergraduate, 2017 - 2018, 2018 - 2019, 2019 - 2020

Database Applications, Undergraduate, 2014 - 2015, 2015 - 2016, 2016 - 2017, 2017 - 2018, 2018 - 2019, 2019 - 2020

Wireless Network Security, Postgraduate, 2018 - 2019

Basic Computer Science and C/C++, Undergraduate, 2016 - 2017, 2017 - 2018

Object Oriented Programming, Undergraduate, 2016 - 2017, 2017 - 2018

Programming Languages, Undergraduate, 2016 - 2017, 2017 - 2018

Introduction to Computer Security, Undergraduate, 2014 - 2015, 2015 - 2016

Unix Programming, Undergraduate, 2014 - 2015

Distributed Systems, Undergraduate, 2014 - 2015

## Advising Theses

Demirci M., Yazılım Tanımlı Ağlar için Siber Tehdit İstihbaratı Destekli Savunma Sistemi Geliştirme, Doctorate, Ö.YÜREKTEN(Student), 2020

Demirci M., Yazılım tanımlı ağlarda içerik tabanlı yönlendirme, Postgraduate, M.ATALAY(Student), 2019

Demirci M., SÖZCÜKSEL ANALİZ KULLANARAK KÖTÜ NİYETLİ URL'LERİ DERİN ÖĞRENME TEKNİKLERİ İLE TESPİT ETME, Postgraduate, C.SARICAĞLU(Student), 2019

Demirci M., Yazılım tanımlı ağlarda hizmet dışı bırakma saldırılarının tespiti ve engellenmesi, Postgraduate, N.GÖKSEL(Student), 2019

Demirci M., Bulutta etkin sanal makine göçü için yöntemler geliştirme, Postgraduate, Y.DEMİRAL(Student), 2019

Demirci M., Deep learning based stock market prediction using technical indicators, Postgraduate, H.RAŞO(Student), 2019

DEMİRCİ M., Deep Learning Based Stock Market Prediction Using Technical Indicators, H.Raşo(Student), 2019

Demirci M., Multi Hop Communication With Smartphones Over Bluetooth: A Solution For Android Platform, Postgraduate, B.GÜLBAY(Student), 2017

Demirci M., Developing Server Monitoring And Tracking System Against Insider Attacks, Postgraduate, H.İbrahim(Student), 2017

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Security analysis of SDN controller-based DHCP services and attack mitigation with DHCPguard**  
Tok M. S. , DEMİRCİ M.  
COMPUTERS & SECURITY, vol.109, 2021 (Journal Indexed in SCI)
- II. **Energy-efficient virtual security function placement in NFV-enabled networks**  
Demirci M. S. , Sağiroğlu Ş., Demirci M.  
SUSTAINABLE COMPUTING-INFORMATICS & SYSTEMS, vol.30, 2021 (Journal Indexed in SCI)
- III. **Citadel: Cyber threat intelligence assisted defense system for software-defined networks**  
Yurekten O., Demirci M.  
COMPUTER NETWORKS, vol.191, 2021 (Journal Indexed in SCI)
- IV. **SDN-based cyber defense: A survey**  
Yurekten O., Demirci M.  
FUTURE GENERATION COMPUTER SYSTEMS-THE INTERNATIONAL JOURNAL OF ESCIENCE, vol.115, pp.126-149, 2021 (Journal Indexed in SCI)

- V. **StegoGIS: A new steganography method using the geospatial domain**  
Kurtuldu O., Demirci M.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.27, no.1, pp.532-546, 2019  
(Journal Indexed in SCI)
- VI. **Problem Localization and Quantification Using Formal Evidential Reasoning for Virtual Networks**  
Gillani S. F. , Demirci M., Al-Shaer E., Ammar M. H.  
IEEE TRANSACTIONS ON NETWORK AND SERVICE MANAGEMENT, vol.11, pp.307-320, 2014 (Journal Indexed in SCI)
- VII. **Design and analysis of techniques for mapping virtual networks to software-defined network substrates**  
Demirci M., Ammar M.  
COMPUTER COMMUNICATIONS, vol.45, pp.1-10, 2014 (Journal Indexed in SCI)

## Articles Published in Other Journals

- I. **An Investigation of Topology Poisoning Attacks in Software Defined Networks Through Exploiting Link Layer Discovery Protocol**  
Tok M. S. , Demirci M.  
Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.26, no.2, pp.589-608, 2021 (National Refreed University Journal)
- II. **A Deep Learning Based System for Traffic Engineering in Software Defined Networks**  
Abdulrazzaq S., Demirci M.  
International Journal of Intelligent Systems and Applications in Engineering, vol.8, no.4, pp.206-213, 2020  
(Refereed Journals of Other Institutions)
- III. **Predicting the Turkish Stock Market BIST 30 Index using Deep Learning**  
RAŞO H., DEMİRCİ M.  
Uluslararası Mühendislik Araştırma ve Geliştirme Dergisi, 2019 (Refereed Journals of Other Institutions)
- IV. **Virtual Security Functions and Their Placement in Software Defined Networks: A Survey**  
Demirci M. S. , Demirci M., Sağıroğlu Ş.  
GAZI UNIVERSITY JOURNAL OF SCIENCE, vol.32, no.3, pp.833-851, 2019 (Journal Indexed in ESCI)
- V. **Kurum İçi Saldırıların Tespiti ve Önlenmesi için Sunucu İzleme Uygulaması**  
Ulus H. İ. , Demirci M.  
Gazi Üniversitesi Fen Bilimleri Dergisi Part: C Tasarım ve Teknoloji, vol.6, no.3, 2018 (International Refreed University Journal)

## Books & Book Chapters

- I. **Security and DDoS in SDN: Opportunities and Challenges**  
Demirci M.  
in: Distributed Denial of Service Attacks: Real-world Detection and Mitigation, İlker Özçelik, Richard R. Brooks, Editor, CRC, New York , Florida, pp.223-238, 2020
- II. **Yazılım Tanımlı Ağlar ve Siber Güvenlik**  
Gündüz M. S. , Yürekten Ö., Demirci M.  
in: Siber Güvenlik ve Savunma: Standartlar ve Uygulamalar, Şeref Sağıroğlu, Editor, Grafiker, Ankara, pp.121-152, 2019

## Refereed Congress / Symposium Publications in Proceedings

- I. **SDN-Based Data Forwarding in Fog-Enabled Smart Grids**  
YILDIRIM OKAY F., ÖZDEMİR S., DEMİRCİ M.  
IEEE GPECOM 2019, 12 - 15 June 2019
- II. **Siber Tehdit İstihbaratı Alanında Makine Öğrenmesi Algoritmalarının Kullanılması**  
Sarıcaoğlu C., DEMİRCİ M.  
International Data Science and Engineering Symposium, 2 - 03 May 2019
- III. **IP Packet Marking and Forwarding Based on Content Type with SDN**  
Atalay M., Demirci M.  
ICATCES 2019, Antalya, Turkey, 26 - 28 April 2019
- IV. **Implementation of an SDN Based IoT Network Model for Efficient Transmission of Sensor Data**  
İnağ Y., Demirci M., Ozdemir S.  
4th International Conference on Computer Science and Engineering (UBMK), Samsun, Turkey, 11 - 15 September 2019, pp.682-687
- V. **SMOTE and Gaussian Noise Based Sensor Data Augmentation**  
Arslan M., GÜZEL M., DEMİRCİ M., ÖZDEMİR S.  
4th International Conference on Computer Science and Engineering (UBMK), Samsun, Turkey, 11 - 15 September 2019, pp.458-462
- VI. **DoS Attack Detection using Packet Statistics in SDN**  
Goksel N., Demirci M.  
International Symposium on Networks, Computers and Communications (ISNCC), İstanbul, Turkey, 18 - 20 June 2019
- VII. **An Investigation of Hypervisor Effect on Virtual Networks Performance**  
Demiral Y., DEMİRCİ M.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- VIII. **Optimal Placement of Virtual Security Functions to Minimize Energy Consumption**  
Demirci M. S. , Demirci M., Sağıroğlu Ş.  
International Symposium on Networks, Computers and Communications (ISNCC), Rome, Italy, 19 - 21 June 2018
- IX. **Agile Network Defense Using Cyber Threat Intelligence**  
DEMİRCİ M.  
International Workshop on Industry and Computer Security, 08 December 2017
- X. **Using Cyber Threat Intelligence in SDN Security**  
Yurekten O., DEMİRCİ M.  
2017 International Conference on Computer Science and Engineering (UBMK), Antalya, Turkey, 5 - 08 October 2017, pp.377-382
- XI. **An Experimental Study on Efficient Virtual Network Migration**  
Demiral Y., DEMİRCİ M.  
2017 International Conference on Computer Science and Engineering (UBMK), Antalya, Turkey, 5 - 08 October 2017, pp.522-527
- XII. **A Novel Method for Multi-hop Communication over Bluetooth with Smartphones**  
Gulbay B., DEMİRCİ M.  
2017 International Conference on Computer Science and Engineering (UBMK), Antalya, Turkey, 5 - 08 October 2017, pp.1009-1014
- XIII. **Corporate E-mail Classification System**  
Yildiz A., DEMİRCİ M.  
2017 International Conference on Computer Science and Engineering (UBMK), Antalya, Turkey, 5 - 08 October 2017, pp.559-564
- XIV. **Security Challenges in Software Defined Networking SDN**  
DEMİRCİ M.  
International Cyber Security Workshop 2016, İstanbul, Turkey, 23 - 27 May 2016
- XV. **Sitelere Arası Komut Dizisi XSS ve SQL Enjeksiyonu Saldırılarına Karşı Güvenlik Önlemlerinin**

## **İncelenmesi**

Ulus H. İ. , Demirci M.

8th International Conference on Information Security and Cryptology, Ankara, Turkey, 30 - 31 October 2015

**XVI. Requirements and Challenges for Healthcare Data Protection**

Eken H., Demirci M.

3rd International Symposium on Digital Forensics and Security, Ankara, Turkey, 11 - 12 May 2015

**XVII. A Review of Techniques and Tools for Gathering Digital Evidence from Mobile Phones**

Bal M., Öztürk B., Yayla E., Gündüz M. S. , Demirci M.

3rd International Symposium on Digital Forensics and Security, Ankara, Turkey, 11 - 12 May 2015

**XVIII. A Survey of Machine Learning Applications for Energy-Efficient Resource Management in Cloud Computing Environments**

Demirci M.

IEEE 14th International Conference on Machine Learning and Applications ICMLA, Florida, United States Of America, 9 - 11 December 2015, pp.1185-1190

**XIX. A Review of Machine Learning Solutions to Denial-of-Services Attacks in Wireless Sensor Networks**

Gunduz S., Arslan B., Demirci M.

IEEE 14th International Conference on Machine Learning and Applications ICMLA, Florida, United States Of America, 9 - 11 December 2015, pp.150-155

**XX. Overlay Network Placement for Diagnosability**

Demirci M., Gillani F., Ammar M., Al-Shaer E.

IEEE Global Communications Conference (GLOBECOM), Georgia, United States Of America, 9 - 13 December 2013, pp.2236-2242

**XXI. Fine Grain Diagnosis of Overlay Performance Anomalies Using End Point Network Experiences**

Gillani F., Al-Shaer E., Ammar M., Demirci M.

8th International Conference on Network and Service Management, Nevada, United States Of America, 22 - 26 October 2012, pp.91-99

**XXII. Fair allocation of substrate resources among multiple overlay networks**

Demirci M., Ammar M.

18th Annual IEEE/ACM International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems, MASCOTS 2010, Miami Beach, FL, United States Of America, 17 - 19 August 2010, pp.121-130

**XXIII. Multi-layer Monitoring of Overlay Networks**

Demirci M., Lo S., Seetharaman S., Ammar M.

10th International Conference on Passive and Active Network Measurement, Seoul, South Korea, 1 - 03 April 2009, vol.5448, pp.77-78

## **Supported Projects**

Özdemir S., Demirci M., TUBITAK Project, Nesnelerin interneti için sis hesaplama temelli karmaşık olay işleme ve değerli içerik çıkarımı, 2018 - 2021

Demirci M., TUBITAK Project, Sanal Ağların Yeniden Yapılandırılmasına İlişkin Prensiplerin Tasarımı, 2014 - 2016

## **Scientific Refereeing**

IETE JOURNAL OF RESEARCH, Journal Indexed in SCI-E, May 2021

IEEE Communications Letters, Journal Indexed in SCI-E, March 2021

IEEE TRANSACTIONS ON NETWORK AND SERVICE MANAGEMENT, Journal Indexed in SCI-E, June 2020

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, Journal Indexed in SCI-E, February 2020

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, Journal Indexed in SCI-E, January 2020

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, Journal Indexed in SCI-E, July 2018  
COMPUTER NETWORKS, Journal Indexed in SCI-E, April 2018  
INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS, Journal Indexed in SCI-E, March 2018  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, Journal Indexed in SCI-E, June 2017  
IEEE ACCESS, Journal Indexed in SCI-E, November 2016  
INTERNATIONAL JOURNAL OF DISTRIBUTED SENSOR NETWORKS, Journal Indexed in SCI-E, October 2016  
IEEE TRANSACTIONS ON NETWORK AND SERVICE MANAGEMENT, Journal Indexed in SCI-E, April 2016  
IEEE TRANSACTIONS ON NETWORK AND SERVICE MANAGEMENT, Journal Indexed in SCI-E, February 2016

### **Tasks In Event Organizations**

Demirci M., International Symposium on Networks, Computers and Communications, Scientific Congress, Canada, Ekim 2020  
Demirci M., International Symposium on Networks, Computers and Communications, Scientific Congress, İstanbul, Turkey, Haziran 2019  
Demirci M., International Conference on Computer Science and Engineering, Scientific Congress, Antalya, Turkey, Ekim 2017  
Demirci M., International Symposium on Digital Forensics and Security, Scientific Congress, Ankara, Turkey, Mayıs 2015

### **Scientific Research / Working Group Memberships**

Güvenli Ve Esnek Ağlar Araştırma Grubu, Gazi University, Turkey, <https://avesis.gazi.edu.tr/arastirma-grubu/sfnet>, 2020  
- Continues

### **Citations**

Total Citations (WOS):94  
h-index (WOS):4