

## Asst. Prof. FEYZA YILDIRIM OKAY

### Personal Information

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### International Researcher IDs

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### Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği (Dr), Turkey 2013 - 2019

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği (YI) (Tezli), Turkey 2011 - 2013

Postgraduate, Tobb University Of Economics And Technology, Institute Of Science, Bilgisayar Mühendisliği (YI) (Tezli), Turkey 2010 - 2011

Undergraduate, Cankaya University, Faculty Of Economics And Administrative Sciences, Department Of Business, Turkey 2008 - 2010

Undergraduate, Cankaya University, Faculty Of Engineering, Department Of Computer Engineering, Turkey 2005 - 2010

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, Nesnelerin İnterneti için Sis Hesaplama Tabanlı Veri Kümeleme ve Yönlendirme Modelleri, Gazi University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği (Dr), 2019

Postgraduate, Kablosuz algılayıcı ağlarda çok-amaçlı evrimsel algoritmalar ile etkin güvenli kapsama kontrolü, Gazi University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği (YI) (Tezli), 2013

### Academic Titles / Tasks

Research Assistant, Gazi University, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, 2010 - Continues

### Published journal articles indexed by SCI, SSCI, and AHCI

- Road to efficiency: Mobility-driven joint task offloading and resource utilization protocol for connected vehicle networks**  
Akyıldız O., Yildirim Okay F., Kök I., Özdemir S.  
FUTURE GENERATION COMPUTER SYSTEMS, vol.156, pp.157-167, 2024 (SCI-Expanded)
- Unveiling anomalies: a survey on XAI-based anomaly detection for IoT**  
Eren E., YILDIRIM OKAY F., ÖZDEMİR S.

- Turkish Journal of Electrical Engineering and Computer Sciences, vol.32, no.3, pp.358-381, 2024 (SCI-Expanded)
- III. **Explainable Artificial Intelligence (XAI) for Internet of Things: A Survey**  
Kok I., Okay F., Muyanli O., ÖZDEMİR S.  
IEEE Internet of Things Journal, vol.10, no.16, pp.14764-14779, 2023 (SCI-Expanded)
- IV. **A P4-assisted task offloading scheme for Fog networks: An intelligent transportation system scenario**  
Akyıldız O., Kök I., Okay F., Özdemir S.  
Internet of Things (Netherlands), vol.22, 2023 (SCI-Expanded)
- V. **FogAI: An AI-supported fog controller for Next Generation IoT**  
KÖK İ., YILDIRIM OKAY F., ÖZDEMİR S.  
INTERNET OF THINGS, vol.19, 2022 (SCI-Expanded)
- VI. **Priority Enabled Content Based Forwarding in Fog Computing via SDN**  
İNAĞ Y., GÜZEL M., YILDIRIM OKAY F., DEMİRCİ M., ÖZDEMİR S.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, pp.1-21, 2022 (SCI-Expanded)
- VII. **Big data analytics for default prediction using graph theory**  
Yildirim M., Okay F., Ozdemir S.  
EXPERT SYSTEMS WITH APPLICATIONS, vol.176, 2021 (SCI-Expanded)
- VIII. **A deep learning-based CEP rule extraction framework for IoT data**  
Şimşek M. U., Yıldırım Okay F., Ozdemir S.  
JOURNAL OF SUPERCOMPUTING, vol.77, no.8, pp.8563-8592, 2021 (SCI-Expanded)
- IX. **Fog computing-based privacy preserving data aggregation protocols**  
YILDIRIM OKAY F., Ozdemir S., Xiao Y.  
TRANSACTIONS ON EMERGING TELECOMMUNICATIONS TECHNOLOGIES, vol.31, no.4, 2020 (SCI-Expanded)
- X. **Routing in Fog-Enabled IoT Platforms: A Survey and an SDN-Based Solution**  
YILDIRIM OKAY F., Ozdemir S.  
IEEE INTERNET OF THINGS JOURNAL, vol.5, no.6, pp.4871-4889, 2018 (SCI-Expanded)
- XI. **IMPROVING COVERAGE IN WIRELESS SENSOR NETWORKS USING MULTI-OBJECTIVE EVOLUTIONARY ALGORITHMS**  
YILDIRIM OKAY F., Ozdemir S.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.30, no.2, pp.143-153, 2015 (SCI-Expanded)
- XII. **MEDIUM ACCESS CONTROL PROTOCOLS IN WIRELESS SENSOR NETWORKS**  
YILDIRIM OKAY F., Ozdemir S.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.29, no.1, pp.49-59, 2014 (SCI-Expanded)

## Articles Published in Other Journals

- I. **IoT-Based Energy Consumption Prediction Using Transformers**  
Alioghli A. A., Yıldırım Okay F.  
Gazi University Journal of Science Part A: Engineering and Innovation, vol.11, no.2, pp.304-323, 2024 (Peer-Reviewed Journal)
- II. **A comparative analysis on the reliability of interpretable machine learning**  
YILDIRIM M., YILDIRIM OKAY F., ÖZDEMİR S.  
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSITESI MUHENDISLIK BILIMLERI DERGISI, vol.30, no.4, pp.494-508, 2024 (ESCI)
- III. **TPS3: A privacy preserving data collection protocol for smart grids**  
ŞİMŞEK M. B., YILDIRIM OKAY F., Mert D., Ozdemir S.  
INFORMATION SECURITY JOURNAL, vol.27, no.2, pp.102-118, 2018 (ESCI)

## Books & Book Chapters

- I. **Yorumlanabilir Makine Öğrenmesi**  
YILDIRIM OKAY F., YILDIRIM M.  
in: Yorumlanabilir ve Açıklanabilir Yapay Zeka ve Güncel Konular, Şeref Sağıroğlu, Mustafa Umut Demirezen, Editor, Nobel Akademik Yayıncılık, Ankara, pp.1-41, 2022
- II. **Fog Computing Based Complex Event Processing for Internet of Things**  
Yildirim Okay F., Kök I., Güzel M., Özdemir S.  
in: BIG DATA-ENABLED INTERNET OF THINGS, Muhammad Usman Shahid Khan, Samee U. Khan, Albert Y. Zomaya, Editor, IET - Institution of Engineering and Technology, North Dakota, pp.68-80, 2019

## Refereed Congress / Symposium Publications in Proceedings

- I. **Image Transformation for IoT-based Anomaly Detection**  
Bamus I., YILDIRIM OKAY F.  
32nd IEEE Conference on Signal Processing and Communications Applications, SIU 2024, Mersin, Turkey, 15 - 18 May 2024
- II. **Improved Chain-based Multi-Output Classification for Packaging Planning**  
Yildiz S. N., Yildirim Okay F., Islamov A., Özdemir S.  
14th International Conference on Emerging Ubiquitous Systems and Pervasive Networks / 13th International Conference on Current and Future Trends of Information and Communication Technologies in Healthcare, EUSPN/ICTH 2023, Almaty, Kazakhstan, 7 - 09 November 2023, vol.231, pp.697-702
- III. **Malicious Firmware Detection on Embedded Systems Using Deep Learning**  
Yapıcıoğlu C., YILDIRIM OKAY F., DEMİRCİ M.  
2023 Innovations in Intelligent Systems and Applications Conference, ASYU 2023, Sivas, Turkey, 11 - 13 October 2023
- IV. **Anomaly Detection in Financial Data using Deep Learning: A Comparative Analysis**  
Yıldız K., Dedebeğ S., YILDIRIM OKAY F., Şimşek M. U.  
Akıllı Sistemlerde Yenilikler ve Uygulamaları Konferansı (ASYU 2022), Antalya, Turkey, 07 September 2022
- V. **QNSGA-II: A Quantum Computing-Inspired Approach to Multi-Objective Optimization**  
GÜZEL M., YILDIRIM OKAY F., KÖK İ., ÖZDEMİR S.  
2022 International Symposium on Networks, Computers and Communications (ISNCC), Shenzhen, China, 19 July 2022
- VI. **Real-time Aircraft Tracking System: A Survey and A Deep Learning Based Model**  
Çakıcı M. E., YILDIRIM OKAY F., ÖZDEMİR S.  
2021 International Symposium on Networks, Computers and Communications (ISNCC), Dubai, United Arab Emirates, 31 October 2021
- VII. **Interpretable Machine Learning: A Case Study of Healthcare**  
YILDIRIM OKAY F., YILDIRIM M., ÖZDEMİR S.  
2021 International Symposium on Networks, Computers and Communications (ISNCC), Dubai, United Arab Emirates, 31 October 2021
- VIII. **Sentiment Analysis for Turkish Unstructured Data by Machine Translation**  
YILDIRIM M., YILDIRIM OKAY F., ÖZDEMİR S.  
2020 IEEE International Conference on Big Data (Big Data), Atlanta, GA, United States Of America, 11 December 2020
- IX. **SDN-Based Data Forwarding in Fog-Enabled Smart Grids**  
YILDIRIM OKAY F., ÖZDEMİR S., DEMİRCİ M.  
IEEE GPECOM 2019, 12 - 15 June 2019
- X. **Efficient and Secure Coverage Control in Internet of Things**  
YILDIRIM OKAY F., Özdemir S.

3rd International Conference on Computer Science and Engineering (UBMK), Sarajevo, Bosnia And Herzegovina, 20 - 23 September 2018, pp.90-95

**XI. Comparative Analysis of IoT Communication Protocols**

Corak B. H., YILDIRIM OKAY F., GÜZEL M., Murt S., Ozdemir S.

International Symposium on Networks, Computers and Communications (ISNCC), Rome, Italy, 19 - 21 June 2018

**XII. A Secure Data Aggregation Protocol for Fog Computing Based Smart Grids**

YILDIRIM OKAY F., Ozdemir S.

12th IEEE International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG), Doha, Qatar, 10 - 12 April 2018

**XIII. A Fog Computing Based Smart Grid Model**

YILDIRIM OKAY F., Ozdemir S.

International Symposium on Networks, Computers and Communications (ISNCC), Hammamet, Tunisia, 11 - 13 May 2016

**XIV. Dimensionality reduction with PCA in block based DCT domain**

GÜZEL TURHAN C., YILDIRIM OKAY F., YILDIZ O., BİLGE H. Ş.

International Conference on Advanced Technology & Sciences (ICAT'14), Antalya, Turkey, 12 - 15 August 2014, pp.216-220

**XV. Kablosuz Algılayıcı Ağlarda Güvenli Yönlendirme Protokolleri Üzerine Bir İnceleme**

Yıldırım Okay F., Özdemir S., Sağıroğlu Ş.

7th International Conference on Information Security and Cryptology, İstanbul, Turkey, 14 - 16 January 2014

**XVI. Multi objective evolutionary algorithm based on decomposition for efficient coverage control in mobile sensor networks**

Ali Attea B., Yıldırım Okay F., Özdemir S., Akcayol M. A.

2012 6th International Conference on Application of Information and Communication Technologies (AICT), Tbilisi, Georgia, 17 - 19 October 2012

**XVII. Kablosuz Algılayıcı Ağlarda Güvenli Ortam Erişim Protokolleri**

Yıldırım Okay F., Özdemir S.

International Conference on Information Security & Cryptology (ISCTURKEY), Ankara, Turkey, 5 - 08 June 2012, pp.1-7

## Supported Projects

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

## Metrics

Publication: 34

Citation (WoS): 139

Citation (Scopus): 385

H-Index (WoS): 4

H-Index (Scopus): 7