

Asst. Prof.  
Murat  
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### Personal Information

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### International Researcher IDs

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Publons / Web Of Science

ResearcherID: P-9395-2019

ScopusID: 57192081569

Yoksis Researcher ID: 216116



### Education Information

Post Doctorate, Universita degli Studi di Trento, Department of Information Engineering and Computer Science, Italy 2024 - 2025

Doctorate, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Elektronik ve Haberleşme Mühendisliği , Turkey 2016 - 2022

Postgraduate, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Elektronik , Turkey 2014 - 2016

Undergraduate, Yildiz Technical University, Faculty Of Electrical & Electronics, Elektronik Ve Haberleşme Mühendisliği, Turkey 2007 - 2013

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Hybrid face recognition under adverse conditions using appearance-based and dynamic features of facial expressions, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, 2022

Postgraduate, Inverter air conditioner intelligent system design, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Elektronik , 2016

### Research Areas

Computer Sciences, Artificial Intelligence, Computer Learning and Pattern Recognition, Computer Learning, Human Computer Interaction, Neural Networks, Electrical and Electronics Engineering, Electronic, Electronic Circuits, Engineering and Technology

## Academic Titles / Tasks

Assistant Professor, Yildiz Technical University, Faculty Of Electrical & Electronics, Electronics And Communication Engineering, 2023 - Continues

Lecturer PhD, Yildiz Technical University, Rectorate, -, 2022 - 2023

Lecturer, Yildiz Technical University, Rectorate, -, 2021 - 2022

Research Assistant, Yildiz Technical University, Faculty Of Electrical & Electronics, Electronics And Communication Engineering, 2014 - 2021

## Academic and Administrative Experience

Advisor to Vice Rector, Yildiz Technical University, Rectorate, -, 2022 - 2024

## Courses

Biometric System Design, Doctorate, 2023 - 2024, 2022 - 2023, 2021 - 2022

Elektronik Devreler 2 Laboratuvarı ve Proje, Undergraduate, 2023 - 2024, 2022 - 2023

Biometrics, Postgraduate, 2023 - 2024, 2022 - 2023

Electronic Circuits 1 Laboratory, Undergraduate, 2023 - 2024, 2022 - 2023

Algorithm and Programming 1, Undergraduate, 2022 - 2023

Introduction to Computer Engineering, Undergraduate, 2022 - 2023

## Advising Theses

Taşkıran M., SENTIMENT ANALYSIS WITH DEEP LEARNING ALGORITHMS, Postgraduate, M.Çağrı(Student), 2024

Bolat B., Taşkıran M., Otonom Araçlarda Kişi Tespiti için Federe Öğrenmeye Dair Yeni Bir Yöntem, Postgraduate, E.AKPINAR(Student), 2024

Taşkıran M., BITCOIN PRICE FORECASTING APPROACHES WITH OPTUNA-BASED MACHINE LEARNING METHODS, Postgraduate, B.YILDIRIM(Student), 2024

Kahraman N., Taşkıran M., ANOMALY DETECTION IN UNMANNED AERIAL VEHICLES: A COMPREHENSIVE STUDY OF HYBRID DEEP NEURAL NETWORK METHODS FOR EDGE-BASED APPLICATIONS, Doctorate, H.Vildan(Student), 2024

## Research Infrastructure Information

Kahraman N., Taşkıran M., Dündükçü H. V., Saltürk S., Saltürk T., Machine Learning and Biometric System Design Working Group, September 2020

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

- I. **Machine learning approach for GNSS geodetic velocity estimation**  
ÖZARPACI S., KILIÇ B., BAYRAK O. C., TAŞKIRAN M., DOĞAN U., Floyd M.  
GPS Solutions, vol.28, no.2, 2024 (SCI-Expanded)
- II. **Optimal induction machine parameter estimation method with artificial neural networks**  
İpek S. N., Taşkıran M., Bekiroğlu K. N., Ayçiçek E.  
Electrical Engineering, vol.106, no.2, pp.1959-1975, 2024 (SCI-Expanded)
- III. **UAV instantaneous power consumption prediction using LR-TCN with simple moving average**  
Dudukcu H. V., Taskiran M., Kahraman N.

Concurrency and Computation: Practice and Experience, vol.36, no.3, 2024 (SCI-Expanded)

- IV. **An AI based classifier model for lateral pillar classification of Legg–Calve–Perthes**  
Soydan Z., Saglam Y., Key S., Kati Y. A., Taskiran M., Kiymet S., Salturk T., Aydin A. S., Bilgili F., Sen C.  
Scientific Reports, vol.13, no.1, 2023 (SCI-Expanded)
- V. **UAV sensor data applications with deep neural networks: A comprehensive survey**  
Düdükçü H. V., Taşkıran M., Kahraman N.  
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, vol.123, no.Part C, pp.1-17, 2023 (SCI-Expanded)
- VI. **Temporal Convolutional Networks with RNN approach for chaotic time series prediction**  
Dudukcu H. V., Taskiran M., Taskiran Z. G. C., Yildirim T.  
Applied Soft Computing, vol.133, 2023 (SCI-Expanded)
- VII. **A deep neural network based toddler tracking system**  
Guney H., Aydin M., TAŞKIRAN M., KAHRAMAN N.  
CONCURRENCY AND COMPUTATION-PRACTICE & EXPERIENCE, vol.34, no.14, 2022 (SCI-Expanded)
- VIII. **Blood glucose prediction with deep neural networks using weighted decision level fusion**  
DÜDÜKÇÜ H. V., TAŞKIRAN M., YILDIRIM T.  
BIOCYBERNETICS AND BIOMEDICAL ENGINEERING, vol.41, no.3, pp.1208-1223, 2021 (SCI-Expanded)
- IX. **Hybrid face recognition under adverse conditions using appearance-based and dynamic features of smile expression**  
TAŞKIRAN M., KAHRAMAN N., EROĞLU ERDEM Ç.  
IET BIOMETRICS, vol.10, no.1, pp.99-115, 2021 (SCI-Expanded)
- X. **Face recognition: Past, present and future (a review)**  
Taşkıran M., Kahraman N., Eroğlu Erdem E.  
DIGITAL SIGNAL PROCESSING, vol.106, 2020 (SCI-Expanded)
- XI. **A novel memristive true random number generator design**  
Çam Z. G., Taşkıran M., Killoğlu M., Kahraman N., Sedef H.  
COMPEL-THE INTERNATIONAL JOURNAL FOR COMPUTATION AND MATHEMATICS IN ELECTRICAL AND ELECTRONIC ENGINEERING, vol.38, no.6, pp.1931-1947, 2019 (SCI-Expanded)
- XII. **Novel Feature Extraction Methodology with Evaluation in Artificial Neural Networks Based Fingerprint Recognition System**  
KAHRAMAN N., ÇAM TAŞKIRAN Z. G., TAŞKIRAN M.  
TEHNICKI VJESNIK-TECHNICAL GAZETTE, vol.25, pp.112-119, 2018 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Deep Learning-Based Driver Assistance System**  
Kurtkaya B., Tezcan A., TAŞKIRAN M.  
Electrica, vol.23, no.3, pp.607-618, 2023 (ESCI)
- II. **Deep learning based tobacco products classification**  
TAŞKIRAN M., ÇİMEN S.  
International Journal of Computing Science and Mathematics, vol.13, no.2, pp.167-176, 2021 (ESCI)
- III. **Second Generation Current Conveyor Based Floating FractionalOrder Memristance Simulator and a New Dynamical System**  
Çam Taşkıran Z. G., Taşkıran M.  
CYBERNETICS AND INFORMATION TECHNOLOGIES, vol.20, no.5, pp.68-80, 2020 (ESCI)
- IV. **Secure Data Transmission for Authentication with Multiple Biometric Systems Using Steganography and Encryption**  
Killoğlu M., Taşkıran M., Kahraman N.  
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSITESI MUHENDISLIK BILIMLERI DERGISI, vol.24, no.2, pp.173-179, 2018 (ESCI)
- V. **Inverter air conditioner intelligent system design**  
Taşkıran M., Kahraman N., Usta Yoğun H.  
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSITESI MUHENDISLIK BILIMLERI DERGISI, vol.24, no.2, pp.205-213, 2018 (Peer-Reviewed Journal)

**VI. THE NOVEL METHOD FOR RECOGNITION OF AMERICAN SIGN LANGUAGE WITH RING PROJECTION AND DISCRETE WAVELET TRANSFORM**

Taşkıran M., Çimen S., Çam Z. G.

World Journal of Engineering Research and Technology, vol.4, no.1, pp.1-10, 2018 (Peer-Reviewed Journal)

**VII. A NEW CHAOTIC ATTRACTOR FOR RANDOM NUMBER GENERATION BASED ON MEMRISTIVE CIRCUIT**

Çam Z. G., Taşkıran M., Kahraman N., Sedef H.

World Journal Of Engineering Research and Technology, vol.4, pp.1-10, 2018 (Peer-Reviewed Journal)

## **Books & Book Chapters**

**I. Time Series Prediction From Commercial Aircraft Acceleration Sensor Data with Deep Neural Networks: A Benchmark Study**

Düdükcü H. V., Taşkıran M.

in: Academic Studies in Engineering, Prof. Dr. Çoşkun Özalp, Doç. Dr. Savaş Bayram, Doç. Dr. Mahmut Kayar, Editor, Gece Kitaplığı, Ankara, pp.33-46, 2023

**II. ECG DATA ANOMALIES DETECTION WITH STACKED AUTOENCODER ON LOW-POWER AND LOW-MEMORY MICROCONTROLLERS**

Düdükcü H. V., Taşkıran M.

in: Current Research in Engineering, Assoc. Prof. Dr. Selahattin Bardak, Assoc. Prof. Dr. Ümit Ayata, Editor, Gece Kitaplığı, Ankara, pp.275-289, 2023

## **Refereed Congress / Symposium Publications in Proceedings**

**I. A Benchmark Study in Sentiment Analysis with Deep Neural Networks**

Elverişli M. Ç., Taşkıran M.

2024 5th International Conference on Electronic Communication and Artificial Intelligence (ICECAI), Shenzhen, China, 31 May - 02 June 2024, pp.1-5

**II. Identification Of Equivalent Circuit Parameters Of Permanent Magnet Synchronous Machine With Cascade-Forward Neural Network**

İpek S. N., Bekiroğlu K. N., Taşkıran M.

Grad Colloquium'24 Artificial Intelligence, İstanbul, Turkey, 04 June 2024, pp.36

**III. Induction Machine Parameters Estimation with Recurrent Neural Network**

İpek S. N., Taşkıran M., Bekiroğlu K. N., Ayçiçek E.

2nd Engineering International Conference on Electrical, Energy, and Artificial Intelligence (EICEEAI) 2023, Az-Zarqa, Jordan, 27 - 28 December 2023, pp.1-6

**IV. An Optimal Flow for Face Recognition: Analysis/Effects of Face Detection, Alignment and Cropping Techniques**

Gülşen M. F., Taşkıran M., Taşçı S. E., Kahraman N.

2024 26th International Conference on Digital Signal Processing and its Applications (DSPA), Moscow, Russia, 27 - 29 March 2024, pp.1-6

**V. Optuna Based Optimized Transformer Model Approach in Bitcoin Time Series Analysis**

Yıldırım B., Taşkıran M.

2024 26th International Conference on Digital Signal Processing and its Applications (DSPA), Moscow, Russia, 27 - 29 March 2024, pp.1-6

**VI. Human Activity Recognition with Ensemble Learning**

Düdükcü H. V., Taşkıran M., Çam Z. G., Kahraman N.

2024 26th International Conference on Digital Signal Processing and its Applications (DSPA), Moscow, Russia, 27 - 29 March 2024, pp.1-6

**VII. FedLDC: Federated Learning with Loss-Dependent Coefficients in Pedestrian Detection**

Akpınar E., Bolat B., Taşkıran M.

2024 11th International Conference on Signal Processing and Integrated Networks (SPIN), Noida, India, 21 - 22 March 2024, pp.256-261

**VIII. Ensemble Learning Methodologies for Electrocardiogram Analysis: A Comparative Study**

Yildirim B. E., Taskiran M., Bekiroğlu K. N.

2024 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE), Bongaon, India, 24 - 25 January 2024, pp.1-6

- IX. **Şubat 2023 Depremlerinin Bölgede Oluşturduğu Etkiler ve Yapay Zeka ile Afet Yönetim Planlaması**  
Doğan U., Yüzer N., Acar U., Akbaba M. F., Akbulut M. T., Akgün C., Akın O., Akkaya H. C., Akpınar B., Aktaş Z., et al.  
Türkiye Ulusal Jeodezi Komisyonu (TUJK) XXII. Sempozyumu 2023, Trabzon, Turkey, 29 November - 01 December 2023, pp.5-6
- X. **A Fusion-Based Deep Neural Networks Approach for Face Liveness Detection**  
Aydın M., Taskiran M., Kahraman N., Dudukcu H. V.  
2023 International Conference on Innovations in Intelligent Systems and Applications (INISTA), Nabeul, Tunisia, 20 - 23 September 2023, pp.1-6
- XI. **Unmanned Aerial Vehicles (UAVs) Battery Power Anomaly Detection Using Temporal Convolutional Network with Simple Moving Average Algorithm**  
DÜDÜKÇÜ H. V., TAŞKIRAN M., KAHRAMAN N.  
16th International Conference on INnovations in Intelligent SysTems and Applications, INISTA 2022, Biarritz, France, 8 - 12 August 2022
- XII. **Physiotherapy Activities Classification with Deep Neural Networks**  
Düdükçü H. V., Taşkıran M., Dudukcu M. Z.  
2022 Innovations in Intelligent Systems and Applications Conference, ASYU 2022, Antalya, Turkey, 7 - 09 September 2022
- XIII. **Instantaneous Power Consumption Prediction with Modified Temporal Convolutional Network for UAVs**  
DÜDÜKÇÜ H. V., TAŞKIRAN M., KAHRAMAN N.  
45th International Conference on Telecommunications and Signal Processing, TSP 2022, Virtual, Online, Czech Republic, 13 - 15 July 2022, pp.106-109
- XIV. **Consolidated or individual training: Which one is better for blood glucose prediction?**  
DÜDÜKÇÜ H. V., TAŞKIRAN M., YILDIRIM T.  
2021 International Conference on INnovations in Intelligent SysTems and Applications (INISTA), 25 August 2021
- XV. **Comprehensive comparison of LSTM variations for the prediction of chaotic time series**  
DÜDÜKÇÜ H. V., TAŞKIRAN M., ÇAM TAŞKIRAN Z. G.  
2021 International Conference on INnovations in Intelligent SysTems and Applications, INISTA 2021, Kocaeli, Turkey, 25 - 27 August 2021
- XVI. **LSTM and WaveNet Implementation for PredictiveMaintenance of Turbofan Engines**  
Düdükçü H. V., Taşkıran M., Kahraman N.  
2020 IEEE 20th International Symposium on Computational Intelligence and Informatics (CINTI), 5 - 07 November 2020, pp.151-156
- XVII. **Toddler Tracking System with Face Recognition and Object Tracking Using Deep Neural Network**  
GÜNEY H., AYDIN M., TAŞKIRAN M., KAHRAMAN N.  
2020 International Conference on INnovations in Intelligent SysTems and Applications (INISTA), Novi Sad, Serbia, Serbia, 24 - 26 August 2020
- XVIII. **Breast Cancer Detection From Thermography Based on Deep Neural Networks**  
Kıymet S., Aslankaya M. Y., Taşkıran M., Bolat B.  
2019 Innovations in Intelligent Systems and Applications Conference (ASYU), İzmir, Turkey, 31 October - 02 November 2019
- XIX. **Comparison of CNN Tolerances to Intra Class Variety in Food Recognition**  
TAŞKIRAN M., KAHRAMAN N.  
2019 IEEE International Symposium on INnovations in Intelligent SysTems and Applications (INISTA), Sofia, Bulgaria, 3 - 05 July 2019
- XX. **Face Recognition Using Dynamic Features Extracted from Smile Videos**  
Taşkıran M., Killioglu M., Kahraman N., Eroğlu Erdem Ç.  
2019 IEEE International Symposium on INnovations in Intelligent SysTems and Applications (INISTA), Sofija, Bulgaria, 3 - 05 July 2019, pp.1-5
- XXI. **A New Fractional Order Memristance Simulator Circuit Design**  
ÇAM Z. G., TAŞKIRAN M.  
2019 IEEE International Symposium on INnovations in Intelligent SysTems and Applications (INISTA), Sofia, Bulgaria, 3 - 05 July 2019

- XXII. **A Real-Time System For Recognition Of American Sign Language By Using Deep Learning**  
TAŞKIRAN M., KILLIOĞLU M., KAHRAMAN N.  
41st International Conference on Telecommunications and Signal Processing (TSP), Athens, Greece, 4 - 06 July 2018,  
pp.258-261
- XXIII. **Anti-Spoofing In Face Recognition with LivenessDetection Using Pupil Tracking**  
killoğlu m., TAŞKIRAN M., KAHRAMAN N.  
2017 IEEE 15th International Symposium on Applied Machine Intelligence and Informatics (SAMI), 26 - 28 January 2017
- XXIV. **Offline Signature Identification via HOG Features and Artificial Neural Networks**  
Taşkıran M., Çam Z. G.  
15th IEEE International Symposium on Applied Machine Intelligence and Informatics (SAMI), Herlany, Slovakia, 26 - 28  
January 2017, pp.83-86
- XXV. **Hardware Application of Human Machine Interface in Smart Air Conditioners Using Hand Tracking**  
Acay E., Kahraman N., Taşkıran M., Kıyan T., Usta Yoğun H.  
IEEE 58th ELMAR Symposium, Zadar, Croatia, 12 - 14 September 2016, pp.269-272
- XXVI. **An Efficient Method to Optimize Multi-Layer Perceptron for Classification of Human Activities**  
Taşkıran M., Çam Z. G., Kahraman N.  
2nd International Conference on Computer, Control and Communication Technologies (CCCT'15), Antalya, Turkey, 3 - 04  
December 2015, vol.2

## Supported Projects

- İŞILDAK B., AMASYALI M. F., USLU E., KAHRAMAN N., TAŞKIRAN M., DÜDÜKÇÜ H. V., ÇAM TAŞKIRAN Z. G., BOLAT B., YAVUZ S., ÇAKMAK F., Project Supported by Higher Education Institutions, Derin Pekıştirmeli Öğrenme Tabanlı Hibrit Füze GÜdüm Sistemlerinin Geliştirilmesi, 2024 - Continues
- Kahraman N., Çam Taşkıran Z. G., Taşkıran M., DÜdÜkçÜ H. V., Horizon Europe Project, Smart Building Sensitive to Daily Sentiment (SUSTAIN), 2022 - 2026
- Çam Taşkıran Z. G., DÜdÜkçÜ H. V., Taşkıran M., Kahraman N., Project Supported by Higher Education Institutions, Sensör Ağları için Uç Birimlerde Sensör Füzyonu ve Derin Öğrenme Yöntemleri ile Veri Analizi, 2023 - 2025
- Kahraman N., Taşkıran M., Technopark, Yapay Zeka Tabanlı MT Değerlendirme Sistemi (CURES), 2024 - 2024
- Kahraman N., Taşkıran M., Technopark, Dynamic File Encryptor, 2024 - 2024
- Taşkıran M., Kahraman N., Technopark, Yüz Tanıma Sistemleri Araştırma ve Yazılım Geliştirme Projesi, 2023 - 2024
- Yüzer N., Yardım M. S., Turgut S., Yılmaz Genç S., Dikçınar Sel B., Erdem Okumuş D., Kılıç B., Özarpacı S., Bayrak O. C., Sakarya A., et al., Project Supported by Higher Education Institutions, Şubat 2023 Depremlerinin Bölgede Oluşturduğu Etkiler ve Yapay Zeka ile Afet Yönetim Planlaması, 2023 - 2024
- DÜdÜkçÜ H. V., Taşkıran M., Kahraman N., A.Ş. M. T., TUBITAK Project, Cloud-Based Smart Mobile Test Automation Assistant Development, 2022 - 2024
- Kahraman N., Taşkıran M., Technopark, MTHelper, 2022 - 2024
- Karaçor K., Taşkıran M., Kahraman N., TUBITAK Project, Artificial Intelligence and Image Processing Based Model Development for Automatic Detection of Identity Information, 2022 - 2023
- Taşcı S. E., Kahraman N., Taşkıran M., TUBITAK Project, Liveliness Detection in Facial Recognition Systems, 2022 - 2023
- İnsan A., Kahraman N., Çam Taşkıran Z. G., Taşkıran M., Çimen S., TUBITAK Project, Fatih Science and Technology Festival, 2022 - 2023
- Kahraman N., Taşkıran M., Technopark, Deep Learning Applications in Biometric Identification Based Security Systems, 2022 - 2023
- DÜdÜkçÜ H. V., Taşkıran M., Kahraman N., Project Supported by Higher Education Institutions, Flight Anomaly Detection in Unmanned Aerial Vehicles with Hybrid Deep Learning Method, 2021 - 2023
- Kahraman N., Taşkıran M., Technopark, Mobile app testing software on iOS and Android mobile devices, 2022 - 2022
- Taşkıran M., Kurtkaya B., Tezcan A., TUBITAK Project, Real Time Vehicle Road Support System with Image Processing, 2021 - 2022
- Taşkıran M., Kahraman N., Technopark, Research and Software Development for Liveness Analysis, 2021 - 2022
- Çam Taşkıran Z. G., Taşkıran M., DÜdÜkçÜ H. V., Project Supported by Higher Education Institutions, Decision-Level Fusion of Deep Learning Networks for Prediction of Chaotic Time Series, 2021 - 2022
- Kahraman N., Taşkıran M., DÜdÜkçÜ H. V., Technopark, SECURITY EVENT LOGS ANOMALY ANALYSIS MODULE, 2021 - 2021
- Taşkıran M., Aydın M., TUBITAK Project, TODDLER TRACKING SYSTEM WITH SKIN COLOR SEGMENTATION AND MOTION

DETECTION, 2019 - 2020

Erođlu Erdem ., Kahraman N., TUBITAK Project, "Soft Biometric Data Extraction from Multimodal Natural Facial Expression Videos, 2017 - 2020

Kahraman N., Industrial Thesis Project, Inverter air conditioner intelligent system design, 2015 - 2017

## **Scientific Refereeing**

SIGNAL, IMAGE AND VIDEO PROCESSING, SCI Journal, July 2024

## **Metrics**

Publication: 47

Citation (WoS): 246

Citation (Scopus): 437

H-Index (WoS): 6

H-Index (Scopus): 8

## **Entrepreneurship Activities**

Limited, ConfirmX Technology Ltd., 17 December 2021, Co-Founder

## **Non Academic Experience**

Company, Confirmx Teknology Ltd., Software

Company, Belectric-Kulođlu Solar Energy Power Plants Technology Inc., Project Development