

## Prof. Mine Elif KARSLIGİL

### Personal Information

Office Phone: [+90 212 383 5777](tel:+902123835777)

Fax Phone: [+90 212 383 5731](tel:+902123835731)

Email: [elif@yildiz.edu.tr](mailto:elif@yildiz.edu.tr)

Other Email: [elif@cerebroz.io](mailto:elif@cerebroz.io)

Web: <https://avesis.yildiz.edu.tr/elif>

Address: Yıldız Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Bilgisayar Mühendisliği Bölümü, Esenler-İSTANBUL

### International Researcher IDs

ORCID: 0000-0002-9090-9394

Yoksis Researcher ID: 174998

### Education Information

Doctorate, Yıldız Technical University, Graduate School Of Natural And Applied Sciences, Bilgisayar Mühendisliği Anabilimdalı, Turkey 1990 - 1998

Postgraduate, Yıldız Technical University, Graduate School Of Natural And Applied Sciences, Bilgisayar Mühendisliği Anabilimdalı, Turkey 1988 - 1990

Undergraduate, Yıldız Technical University, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, Turkey 1984 - 1988

### Foreign Languages

English, C1 Advanced

### Research Areas

Computer Sciences, algorithms, Computer Vision, Artificial Intelligence, Computer Learning and Pattern Recognition, Computer Learning, Pattern Recognition and Image Processing, Neural Networks, Engineering and Technology

### Academic Titles / Tasks

Associate Professor, Yıldız Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2014 - Continues

### Academic and Administrative Experience

Head of Department, Yıldız Technical University, Rectorate, Department of informatics, 2017 - 2019

Deputy Head of Department, Yıldız Technical University, Faculty of Electrical & Electronics, Computer Engineering, 2013 - 2017

## Courses

Data Structures and Algorithms, Undergraduate, 2019 - 2020  
Introduction to Machine Learning, Postgraduate, 2019 - 2020  
Data Structures and Algorithm Design, Postgraduate, 2019 - 2020  
Image Processing, Undergraduate, 2019 - 2020  
Machine Learning, Postgraduate, 2019 - 2020  
Video Processing, Doctorate, 2018 - 2019  
Algorithm Analysis, Undergraduate, 2019 - 2020  
Advanced Algorithm Analysis and Design, Postgraduate, 2018 - 2019

## Advising Theses

Karşlğıl Yavuz M. E., The Effect of Synthetic Data Generation with Generative Adversarial Networks on Credit Card Fraud Detection, Postgraduate, E.Bayhan(Student), 2021  
Karşlğıl Yavuz M. E., Real-Time Analysis of Ground Operations on Aprons from Security Camera Images with Deep Learning Methods, Postgraduate, B.Yılmaz(Student), 2021  
Karşlğıl Yavuz M. E., Point of Compromise Detection with unsupervised learning, Postgraduate, F.ÖGME(Student), 2020  
Karşlğıl Yavuz M. E., Architectural design with Generative Adversarial Networks, Postgraduate, M.Uçar(Student), 2020  
Karşlğıl Yavuz M. E., Human fall detection using non-contact radar sensor Radar sensörü ile temassız düşme algılama, Postgraduate, K.HANİFİ(Student), 2020  
Karşlğıl Yavuz M. E., Panic detection by evaluating regional speed changes in crowded areas by surveillance video, Postgraduate, H.Hüsem(Student), 2018  
Karşlğıl Yavuz M. E., Environment Description with Convolutional Neural Networks, Postgraduate, A.Çetinsoy(Student), 2018  
Karşlğıl Yavuz M. E., new weighting approach to solve data sparsity problem in collaborative filtering, Postgraduate, T.Zayet(Student), 2017  
Karşlğıl Yavuz M. E., Summarizing surveillance videos using periodic recurrence information, Postgraduate, O.Çandır(Student), 2017  
Karşlğıl Yavuz M. E., Content based image retrieval based on indexing on codewords and metadata attributes in large databases, Postgraduate, H.Yılboğa(Student), 2015  
Karşlğıl Yavuz M. E., Detecting and Summarizing the High Priority Tweets After Natural Disasters, Postgraduate, K.Kebabçı(Student), 2015  
Karşlğıl Yavuz M. E., Hareketli RGB-D görüntülerinden el parmaklarının tesbiti, Postgraduate, H.Ongül(Student), 2014  
Karşlğıl Yavuz M. E., Classification of Laryngeal Disorders based on Shape and Vascular Defects of Vocal Folds, Doctorate, H.İrem(Student), 2013  
Karşlğıl Yavuz M. E., Real-time determination of traffic accident risk from videos, Postgraduate, U.ER(Student), 2012  
Karşlğıl Yavuz M. E., Detection of abnormal vehicle behaviors in traffic videos, Postgraduate, S.Yüksel(Student), 2012  
Karşlğıl Yavuz M. E., Human based real time surveillance video summarization, Postgraduate, M.Said(Student), 2012  
Karşlğıl Yavuz M. E., Real time human action recognition and understanding, Postgraduate, A.Güçlü(Student), 2012  
Karşlğıl Yavuz M. E., Video based Traffic Event Analysis at Intersections using Partial Vehicle Trajectories, Doctorate, Ö.Aköz(Student), 2011  
Karşlğıl Yavuz M. E., Detection news transitions in broadcast news videos, Postgraduate, E.Bozkurt(Student), 2011  
Karşlğıl Yavuz M. E., Real time traffic lane detection and tracking on traffic videos, Postgraduate, F.Coşkun(Student), 2010  
Karşlğıl Yavuz M. E., Predicting stock price changes using financial news articles, Postgraduate, M.İdris(Student), 2010  
Karşlğıl Yavuz M. E., Ev ortamında çocuk güvenliği amaçlı akıllı gözetleme sistemi, Postgraduate, E.Dandan(Student), 2010  
Karşlğıl Yavuz M. E., Broadcast news segmentation using news videos, Postgraduate, R.Davudov(Student), 2009  
Karşlğıl Yavuz M. E., Fire detection using color and motion features in videos, Postgraduate, R.DOĞAN(Student), 2009

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

- I. **Elderly Fall Detection with Vital Signs Monitoring Using CW Doppler Radar**  
Hanifi K., Karşlgil Yavuz M. E.  
IEEE Sensors Journal, vol.21, pp.16969-16978, 2021 (SCI-Expanded)
- II. **A better way of extracting dominant colors using salient objects with semantic segmentation**  
Gündüz A. B., Taşkın B., Yavuz A. G., Karşlgil Yavuz M. E.  
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, no.100, pp.1-15, 2021 (SCI-Expanded)
- III. **Temporal Transaction Scraping Assisted Point of Compromise Detection With Autoencoder Based Feature Engineering**  
Ögme F., Gokhan Yavuz A., Amac Guvensan M. A., Karşlgil Yavuz M. E.  
IEEE ACCESS, vol.9, pp.109536-109547, 2021 (SCI-Expanded)
- IV. **A Closer Look Into the Characteristics of Fraudulent Card Transactions**  
Can B., YAVUZ A. G., Karşlgil E. M., GÜVENSAN M. A.  
IEEE ACCESS, vol.8, pp.166095-166109, 2020 (SCI-Expanded)
- V. **Advanced computing solutions for analysis of laryngeal disorders.**  
Turkmen H. İ., Karşlgil M. E.  
Medical & biological engineering & computing, vol.57, pp.2535-2552, 2019 (SCI-Expanded)
- VI. **Visible Vessels of Vocal Folds: Can They Have a Diagnostic Role?**  
Turkmen H. İ., Karşlgil M. E., Kocak I.  
CURRENT MEDICAL IMAGING, vol.15, no.8, pp.785-795, 2019 (SCI-Expanded)
- VII. **Superpixel-based segmentation of glottal area from videolaryngoscopy images**  
Turkmen H. İ., Albayrak A., Karşlgil M. E., Kocak I.  
JOURNAL OF ELECTRONIC IMAGING, vol.26, no.6, 2017 (SCI-Expanded)
- VIII. **An Energy-Efficient Multi-Tier Architecture for Fall Detection on Smartphones**  
GÜVENSAN M. A., KANSIZ A. O., Camgoz N. C., TURKMEN H. İ., YAVUZ A. G., KARSLIGİL M. E.  
SENSORS, vol.17, no.7, 2017 (SCI-Expanded)
- IX. **Classification of laryngeal disorders based on shape and vascular defects of vocal folds**  
Turkmen H. İ., Karşlgil M. E., Koçak I.  
COMPUTERS IN BIOLOGY AND MEDICINE, vol.62, pp.76-85, 2015 (SCI-Expanded)
- X. **Assessment of vehicular transportation quality via smartphones**  
TECIMER A. A., TAYŞI Z. C., YAVUZ A. G., KARSLIGİL YAVUZ M. E.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.23, pp.2161-2170, 2015 (SCI-Expanded)
- XI. **In situ image processing capabilities of ARM-based micro-controllers**  
TAYŞI Z. C., YAVUZ A. G., GÜVENSAN M. A., KARSLIGİL M. E.  
JOURNAL OF REAL-TIME IMAGE PROCESSING, vol.9, no.1, pp.111-125, 2014 (SCI-Expanded)
- XII. **Traffic Event Classification at Intersections Based on the Severity of Abnormality**  
Aköz Ö., Karşlgil Yavuz M. E.  
Machine Vision And Applications, vol.1, pp.1-20, 2011 (SCI-Expanded)
- XIII. **Dysphonic Speech Reconstruction : Construction of a Novel System for Effective and Efficient Communication**  
TÜRKMEN ÇİLİNGİR H. İ., KARSLIGİL YAVUZ M. E.  
IEEE ENGINEERING IN MEDICINE AND BIOLOGY MAGAZINE, vol.1, pp.135-138, 2010 (SCI-Expanded)

## Refereed Congress / Symposium Publications in Proceedings

- I. **The effect of feature selection on credit card fraud detection success Özellik seçiminin kredi kartı sahtekarlığı tespiti başarısına etkisi**  
Bayhan E., YAVUZ A., GÜVENSAN M. A., KARSLIGİL YAVUZ M. E.

- 29th IEEE Conference on Signal Processing and Communications Applications, SIU 2021, Virtual, Istanbul, Turkey, 9 - 11 June 2021
- II. **Cleaning landmark and geolocation dataset using deep learning methods Coğrafi lokasyon ve yer sembolü veri kümelerinin derin öğrenme yaklaşımları ile iyileştirilmesi**  
Taskin B., KARSLIGİL YAVUZ M. E.  
29th IEEE Conference on Signal Processing and Communications Applications, SIU 2021, Virtual, Istanbul, Turkey, 9 - 11 June 2021
- III. **Tympanic membrane generation with generative adversarial networks Çekişmeli üretici ağlar ile yapay kulak zari görüntülerinin üretimi**  
Eseoglu M. F., KARSLIGİL YAVUZ M. E., Kocak I.  
29th IEEE Conference on Signal Processing and Communications Applications, SIU 2021, Virtual, Istanbul, Turkey, 9 - 11 June 2021
- IV. **Video colorizing with automatic reference image selection Otomatik referans resim seçimi ile video renklendirme**  
Polat A. A., Iahin M. F., KARSLIGİL YAVUZ M. E.  
29th IEEE Conference on Signal Processing and Communications Applications, SIU 2021, Virtual, Istanbul, Turkey, 9 - 11 June 2021
- V. **Road Damage Detection via in Car Cameras Arac İci Kameralarla Yol Hasar Denetimi**  
Asci G., Karsligil M. E.  
28th Signal Processing and Communications Applications Conference, SIU 2020, Gaziantep, Turkey, 5 - 07 October 2020
- VI. **Detection of Airplane and Airplane Parts from Security Camera Images with Deep Learning Derin Öğrenme Yöntemleri ile Güvenlik Kamerasi Görüntülerinden Uçak ve Uçak Bölümlerinin Tespiti**  
Yilmaz B., KARSLIGİL YAVUZ M. E.  
28th Signal Processing and Communications Applications Conference, SIU 2020, Gaziantep, Turkey, 5 - 07 October 2020
- VII. **Contactless Fall Detection using Doppler Radar Doppler Radar ile Temazsız Düşme Algılama**  
Hanifi K., KARSLIGİL YAVUZ M. E.  
28th Signal Processing and Communications Applications Conference, SIU 2020, Gaziantep, Turkey, 5 - 07 October 2020
- VIII. **Point of Compromise Detection with Unsupervised Learning Denetimsiz Öğrenme ile Kredi Kartı Kopyalama Noktalarının Tespit Edilmesi**  
Ögme F., Karşlıgil Yavuz M. E., Yavuz A., Güvensan M. A.  
28th Signal Processing and Communications Applications Conference, SIU 2020, Gaziantep, Turkey, 5 - 07 October 2020
- IX. **Evrişimsel Sinir Ağları ve Uzun-Kısa Süreli Bellek Ağları ile Spor Haberlerinin Sınıflandırılması**  
Akçay M. M., Seymen M., Er Ö., Çetin E., KARSLIGİL YAVUZ M. E.  
27. Sinyal İşleme ve İletişim Uygulamaları Kurultayı, Sivas, Turkey, 24 April 2019, vol.1, no.1, pp.1-5
- X. **Classification of tumor regions in histopathological images using convolutional neural networks**  
GÜNDÜZ K., ALBAYRAK A., BİLGİN G., KARSLIGİL YAVUZ M. E.  
26th Signal Processing and Communications Applications Conference (SIU), Izmir, Turkey, Turkey, 2 - 05 May 2018, pp.1-4
- XI. **Panic detection by regional velocity changes in crowded areas from surveillance video Güvenlik Kamerasi Görüntülerindeki Bölgesel Hız Değişimlerini Değerlendirerek Kalabalık Ortamlarda Panik Durumu Tespiti**  
Hüsem H., Karsligil M. E.  
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.1-4
- XII. **Application Identification via Network Traffic Classification**  
YAMANSAVASCILAR B., GÜVENSAN M. A., YAVUZ A. G., Karsligil M. E.  
International Conference on Computing, Networking and Communications (ICNC), California, United States Of

America, 26 - 29 January 2017, pp.843-848

- XIII. **Detection of the Periodicity of Human Actions for Efficient Video Summarization**  
Çandır O., Karşlıgil M. E.  
18th IEEE International Symposium on Multimedia (IEEE ISM), San-Jose, Costa Rica, 11 - 13 December 2016, pp.391-394
- XIV. **Machine learning based IP traffic classification,**  
TAYŞI Z. C., KARŞLIGİL YAVUZ M. E., YAVUZ A. G., ŞAHİN R., YILMAZ T., DEMİREL H.  
Signal Processing and Communications Applications Conference (SIU), 2013 21st, Lefkoşe, Cyprus (Kktc), 24 April 2013, pp.1-4
- XV. **CLASSIFICATION OF VOCAL FOLD NODULES AND CYSTS BASED ON VASCULAR DEFECTS OF VOCAL FOLDS**  
Turkmen H. İ., Karşlıgil M. E., Koçak I.  
23rd IEEE International Workshop on Machine Learning for Signal Processing (MLSP), Southampton, United Kingdom, 22 - 25 September 2013
- XVI. **A Fast and Accurate Motion Detection Algorithm for Embedded Systems**  
Camgoz N. C., Tayşı Z. C., Güvensan M. A., Karşlıgil M. E., Yavuz A. G.  
21st Signal Processing and Communications Applications Conference (SIU), CYPRUS, 24 - 26 April 2013
- XVII. **Traffic accident risk analysis based on relation of Common Route Models**  
Er U., Yüksel S., Aköz Ö., KARŞLIGİL YAVUZ M. E.  
21st International Conference on Pattern Recognition, Tsukuba, Japan, 11 November 2012, pp.1-6
- XVIII. **Video Summarization using Simple Action Patterns**  
Aydemir M. S., Ergül U., Güçlü A., KARŞLIGİL YAVUZ M. E.  
21st International Conference on Pattern Recognition, Tsukuba, Japan, 11 November 2012, vol.1, no.1, pp.2047-2050
- XIX. **Assessment of Videolaryngostroboscopy Images Based on Visible Vessels Of Vocal Folds**  
Turkmen H. İ., Karşlıgil M. E., Koçak I.  
34th Annual International Conference of the IEEE Engineering-in-Medicine-and-Biology-Society (EMBS), California, United States Of America, 28 August - 01 September 2012, pp.6251-6254
- XX. **Image Processing Capabilities of ARM-based Micro-controllers for Visual Sensor Networks**  
TAYŞI Z. C., YAVUZ A. G., Çelik E., GÜVENSAN M. A., KARŞLIGİL YAVUZ M. E.  
Embedded and Ubiquitous Computing (EUC), 2011 IFIP 9th International Conference on, Melbourne, Australia, 24 November 2011, pp.243-248
- XXI. **Severity Classification of Abnormal Traffic Events at Intersections**  
Aköz Ö., KARŞLIGİL YAVUZ M. E.  
IEEE International Conference on Image Processing, ICIP 2011, Brüksel, Belgium, 11 September 2011, pp.2457-2460
- XXII. **Real time lane detection and tracking system evaluated in a hardware-in-the-loop simulator**  
Coşkun F., Tunçer Ö., Karşlıgil M. E., Güvenç L.  
13th International IEEE Conference on Intelligent Transportation Systems, ITSC 2010, Funchal, Portugal, 19 - 22 September 2010, pp.1336-1343
- XXIII. **Vision based lane keeping assistance control triggered by a driver inattention monitor**  
Tunçer Ö., Güvenç L., Coşkun F., Karşlıgil E.  
2010 IEEE International Conference on Systems, Man and Cybernetics, SMC 2010, İstanbul, Turkey, 10 - 13 October 2010, pp.289-297
- XXIV. **Vision system based lane keeping assistance evaluated in a hardware-in-the-loop simulator**  
Coşkun F., Tuncer Ö., Karşlıgil E., Güvenç L.  
ASME 2010 10th Biennial Conference on Engineering Systems Design and Analysis, ESDA2010, İstanbul, Turkey, 12 - 14 July 2010, vol.3, pp.103-114
- XXV. **Stock Price Prediction Using Financial News Articles**  
Kaya M. I. Y., KARŞLIGİL YAVUZ M. E.  
2nd IEEE International Conference on Information and Financial Engineering, Hong Kong, China, 17 September

2010, pp.478-482

- XXVI. **VIDEO-BASED TRAFFIC ACCIDENT ANALYSIS AT INTERSECTIONS USING PARTIAL VEHICLE TRAJECTORIES**  
Akoez O., Karşligil M. E.  
IEEE International Conference on Image Processing, Hong Kong, PEOPLES R CHINA, 26 - 29 September 2010, pp.4693-4696
- XXVII. **Linear discriminant analysis in Ottoman alphabet character recognition**  
KURT Z., Turkmen H. I., Karşligil M. E.  
European Computing Conference, Athens, Greece, 25 - 27 September 2007, pp.601-607
- XXVIII. **An Evaluation of Possession Information in Playfield Zones from soccer Video Using Mid-level Descriptors**  
Aydın S., KARSLIGİL YAVUZ M. E.  
IEEE 10th International Workshop on Multimedia Signal Processing, Queensland, Australia, 08 October 2008, pp.680-684
- XXIX. **Reconstruction of Dysphonic Speech by MELP**  
TÜRKMEN ÇİLİNGİR H. İ., KARSLIGİL YAVUZ M. E.  
13th Iberoamerican Congress on Pattern Recognition: Progress in Pattern Recognition, Image Analysis and Applications - 2008, Havana, Cuba, 09 September 2008, pp.767-774
- XXX. **Off-Line Signature Verification and Recognition by Support Vector Machine**  
ÖZGÜNDÜZ E., SARI T., KARSLIGİL YAVUZ M. E.  
The 13th European Signal Processing Conference -2005, Antalya, Turkey, 04 September 2008, pp.113-116
- XXXI. **Global Feature Based Female facial Beauty Decision System**  
TÜRKMEN ÇİLİNGİR H. İ., KURT Z., KARSLIGİL YAVUZ M. E.  
The 15th European Signal Processing Conference - 2007, Poznan, Poland, 03 September 2007, pp.1945-1949
- XXXII. **Text area detection in digital documents images using textural features**  
Ar I., Karşligil M. E.  
12th International Conference on Computer Analysis of Images and Patterns, CAIP 2007, Vienna, Austria, 27 - 29 August 2007, pp.555-562
- XXXIII. **The effect of windowing in word sense disambiguation**  
Altintas E., Karşligil E., Coskun V.  
20th International Symposium on Computer and Information Sciences, ISCIS 2005, İstanbul, Turkey, 26 - 28 October 2005, pp.626-635
- XXXIV. **Efficient off-line verification and identification of signatures by multiclass support vector machines**  
ÖZGÜNDÜZ E., Şentürk T., Karşligil M. E.  
11th International Conference on Computer Analysis of Images and Patterns, CAIP 2005, Versailles, France, 5 - 08 September 2005, pp.799-805
- XXXV. **A Genetic Thinning Algorithm Using Cellular Automata**  
KARSLIGİL YAVUZ M. E.  
15th International Symposium on Computer and Information Sciences, İstanbul, Turkey, 10 October 2000, pp.141-149
- XXXVI. **Recognition of Human Face Expression**  
Tatlı E. İ., AMASYALI M. F., KARSLIGİL YAVUZ M. E.  
International Symposium on Computer and Information Sciences, İstanbul, Turkey, 11 October 2000, vol.1, pp.1-4

## Supported Projects

KARSLIGİL M. E., Project Supported by Higher Education Institutions, Hareketli RGB-d Görüntülerden Elparmaklarının Tesbiti, 2012 - 2014

KARSLIGİL M. E., Project Supported by Higher Education Institutions, Ses Teli Damar ve Şekil Özelliklerini Değerlendirerek Ses Teli Patolojilerinin Sınıflandırılması, 2011 - 2013

## Scientific Consultations

BANKALARARASI KART MERKEZİ (BKM), Scientific Consultancy, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, Turkey, 2018 - Continues

BANKALARARASI KART MERKEZİ (BKM), Scientific Consultancy, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, Turkey, 2017 - 2018

CRYPTTECH, Scientific Consultancy, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, Turkey, 2015 - 2016

ASSECO, Scientific Consultancy, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, Turkey, 2014 - 2015

## Metrics

Publication: 50

Citation (WoS): 87

Citation (Scopus): 208

H-Index (WoS): 4

H-Index (Scopus): 7

## Scholarships

Görme Engelli Bireyler İçin Ortam Tarif Sistemi, TUBITAK, 2019 - 2019

Derin Öğrenme Yöntemleri ile Video Sınıflandırma, TUBITAK, 2019 - 2019

Derin Öğrenme Yöntemleri ile Spor Haberlerinin Sınıflandırılması, TUBITAK, 2019 - 2019

Konvolüsyonel Yapay Sinir Ağları ile Görüntüden Yaş ve Cinsiyet Tespiti, TUBITAK, 2018 - 2018

Evrişimsel Sinir Ağları ile Doğal Ortam Görüntülerinden Yaş ve Cinsiyet Tespiti, TUBITAK, 2018 - 2018

RGB\_D Kameradan Alınan Görüntülerden Konvolüsyonel Yapay Sinir Ağı Yöntemleri ile Ortam Tanıyan Sistem, TUBITAK, 2018 - 2018

## Non Academic Experience

Company, NTT (Nippon Telegraph and Telephone Corporation), Intelligent Communication