

## Asst. Prof. Abbas MEMİŞ

### Personal Information

**Email:** abbas.memis@istanbul.edu.tr

**Web:** <https://avesis.istanbul.edu.tr/abbas.memis>

### International Researcher IDs

ScholarID: 4\_OxlcsAAAAJ

ORCID: 0000-0003-2645-8071

Publons / Web Of Science ResearcherID: IZD-6012-2023

ScopusID: 55807729600

Yoksis Researcher ID: [https://akademik.yok.gov.tr/AkademikArama/AkademisyenGorevOgrenimBilgileri?islem=direct&sira=\\_D2bDdARDMCOgjHVGzFVZw&authorId=2ED5A2830F5AB078](https://akademik.yok.gov.tr/AkademikArama/AkademisyenGorevOgrenimBilgileri?islem=direct&sira=_D2bDdARDMCOgjHVGzFVZw&authorId=2ED5A2830F5AB078)

### Education Information

Doctorate, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Computer Engineering, Turkey  
2014 - 2020

Postgraduate, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Computer Engineering,  
Turkey 2010 - 2013

Undergraduate, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, Turkey 2005 -  
2010

### Dissertations

Doctorate, Automatic quantification of proximal femur shape deformities caused by the Legg-Calve-Perthes disease from magnetic resonance images, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Computer Engineering, 2020

Postgraduate, Sign language recognition using spatio-temporal features on Kinect RGB video sequences and depth maps, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Computer Engineering, 2013

### Research Areas

Computer Sciences, Computer Vision, Artificial Intelligence, Computer Learning and Pattern Recognition

### Academic Titles / Tasks

Assistant Professor, Istanbul University, Bilgisayar Ve Bilişim Teknolojileri Fakültesi, Bilgisayar Mühendisliği Bölümü ,  
2024 - Continues

Assistant Professor, Istanbul Health and Technology University, Faculty of Engineering and Natural Sciences, Software Engineering, 2021 - 2023

Research Assistant, Istanbul Technical University, Bilgisayar Ve Bilişim, Bilgisayar Mühendisliği, 2012 - 2013

## Courses

Computer Applications, Undergraduate, 2023 - 2024

Introduction to Programming, Undergraduate, 2023 - 2024

## Advising Theses

Memiş A., Varlı S., Derin öğrenme ile histopatoloji görüntülerinde çekirdek örnek bölütleme, Postgraduate, S.YILDIZ(Student), 2024

Memiş A., Güçlü H., Developing and testing a visual processing software for automatic recognition and evaluation of audiograms, Postgraduate, B.Nur(Student), 2023

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

- I. **TRCaptionNet: A novel and accurate deep Turkish image captioning model with vision transformer based image encoders and deep linguistic text decoders**  
Yildiz S., Memis A., VARLI S.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.31, no.6, pp.1079-1098, 2023 (SCI-Expanded)
- II. **A turnaround control system to automatically detect and monitor the timestamps of ground service actions in airports: A deep learning and computervision based approach br**  
Yildiz S., Aydemir O., Memis A., VARLI S.  
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, vol.114, 2022 (SCI-Expanded)
- III. **Fast and Accurate Registration of the Proximal Femurs in Bilateral Hip Joint Images by Using the Random Sub-Sample Points**  
Memis A., Varli S., Bilgili F.  
IRBM, vol.43, no.2, pp.130-141, 2022 (SCI-Expanded)
- IV. **Image based quantification of the proximal femur shape deformities in 3D by using the contralateral healthy shape structure: A preliminary study**  
Memis A., VARLI S., Bilgili F.  
BIOMEDICAL SIGNAL PROCESSING AND CONTROL, vol.71, 2022 (SCI-Expanded)
- V. **A novel approach for computerized quantitative image analysis of proximal femur bone shape deformities based on the hip joint symmetry**  
Memis A., VARLI S., Bilgili F.  
ARTIFICIAL INTELLIGENCE IN MEDICINE, 2021 (SCI-Expanded)
- VI. **Semantic segmentation of the multiform proximal femur and femoral head bones with the deep convolutional neural networks in low quality MRI sections acquired in different MRI protocols**  
Memis A., VARLI S., Bilgili F.  
COMPUTERIZED MEDICAL IMAGING AND GRAPHICS, 2020 (SCI-Expanded)
- VII. **Computerized 2D detection of the multiform femoral heads in magnetic resonance imaging (MRI) sections with the integro-differential operator**  
Memis A., VARLI S., Bilgili F.  
BIOMEDICAL SIGNAL PROCESSING AND CONTROL, 2019 (SCI-Expanded)
- VIII. **A new scheme for automatic 2D detection of spheric and aspheric femoral heads: A case study on coronal MR images of bilateral hip joints of patients with Legg-Calve-Perthes disease**  
Memis A., Albayrak S., Bilgili F.  
COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE, pp.83-93, 2019 (SCI-Expanded)

## Articles Published in Other Journals

## ARTICLES PUBLISHED IN OTHER JOURNALS

- I. **Quantification of 2D shape variation of abnormal proximal femurs over normal proximal femurs in bilateral hip MRI: A computerized analysis for Legg-Calve-Perthes disease**  
Memiş A., VARLI S., BİLGİLİ F.  
Procedia Computer Science, vol.158, pp.426-435, 2019 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Computer-based Analysis of Bone Shape Structures from Medical Images: Research Studies on Hip Joint**  
Memiş A.  
in: Processing and Analysis of Medical Images, Kamaşak ME, Töreyin BU, Editor, Türkiye Klinikleri Yayınevi, Ankara, pp.39-48, 2023

## Refereed Congress / Symposium Publications in Proceedings

- I. **A Comparative Analysis of Loss Functions in Segmentation of Medical Images with Highly Imbalanced Class Distribution: An Experimental Study for Deep Nuclei Segmentation**  
Yıldız S., Memiş A., Varlı S.  
2024 International Conference on INnovations in Intelligent SysTems and Applications (INISTA), Craiova, Romania, 4 - 06 September 2024, pp.1-6
- II. **Segmentation of Cell Nuclei in Histology Images with Vision Transformer Based U-Net Models**  
Yıldız S., Memiş A., Varlı S.  
32nd Signal Processing and Communications Applications Conference (SIU 2024), Mersin, Turkey, 15 - 18 May 2024, pp.1-4
- III. **Turkish Image Captioning with Vision Transformer Based Encoders and Text Decoders**  
Yıldız S., Memiş A., Varlı S.  
32nd Signal Processing and Communications Applications Conference (SIU 2024), Mersin, Turkey, 15 - 18 May 2024, pp.1-4
- IV. **Semantic and Instance Segmentation of Multi-organ Cell Nuclei Using Deep Learning Based Methods**  
Yıldız S., Memiş A., Varlı S.  
32nd Signal Processing and Communications Applications Conference (SIU 2024), Mersin, Turkey, 15 - 18 May 2024, pp.1-4
- V. **Nuclei Instance Segmentation in Colon Histology Images with YOLOv7**  
Yıldız S., Memiş A., VARLI S.  
2nd International Conference on Advanced Engineering, Technology and Applications, ICAETA 2023, İstanbul, Turkey, 10 - 11 March 2023, vol.1983 CCIS, pp.335-343
- VI. **Size-based Adaptive Instance Pruning for Refined Segmentation of Cell Nuclei in Histology Images**  
Yıldız S., Memiş A., VARLI S.  
31st IEEE Conference on Signal Processing and Communications Applications (SIU), İstanbul, Turkey, 5 - 08 July 2023
- VII. **Automatic Turkish Image Captioning: The Impact of Deep Machine Translation Otomatik Türkçe Görüntü Altyazılama: Derin Makine Qevirisinin Etkisi**  
Yıldız S., Memiş A., Varlı S.  
8th International Conference on Computer Science and Engineering, UBMK 2023, Burdur, Turkey, 13 - 15 September 2023, pp.414-419
- VIII. **Deep Learning Based Automatic Detection of Audiological Symbols in Audiogram Images Odyogram Görüntülerindeki İşitsel Sembollerin Derin öğrenme Tabanlı Otomatik Tespiti**  
Basturk B. N., Memiş A., Güçlü H.  
2023 Innovations in Intelligent Systems and Applications Conference, ASYU 2023, Sivas, Turkey, 11 - 13 October

2023

- IX. Nuclei Segmentation in Colon Histology Images by Using the Deep CNNs: A U-Net Based Multi-class Segmentation Analysis**  
Yildiz S., Memis A., VARLI S.  
Medical Technologies Congress (TIPTEKNO), Antalya, Turkey, 31 October - 02 November 2022
- X. Automatic classification of the waldenstrom stages of legg-calve-perthes disease from the 2D total proximal femur shape deformity**  
Memis A., VARLI S., BİLGİLİ F.  
2021 International Conference on INnovations in Intelligent SysTems and Applications, INISTA 2021, Kocaeli, Turkey, 25 - 27 August 2021
- XI. Random Point Sub-sampling in Rigid Registration of 2D Proximal Femur Surfaces**  
Memis A., VARLI S., BİLGİLİ F.  
29th IEEE Conference on Signal Processing and Communications Applications (SIU), ELECTR NETWORK, 9 - 11 June 2021
- XII. 3D Femoral Head Detection in MRI Data Sequences with the Integro-differential Operator**  
Memis A., VARLI S., BİLGİLİ F.  
2020 Medical Technologies Congress, TIPTEKNO 2020, Antalya, Turkey, 19 - 20 November 2020
- XIII. Femoral Head Segmentation with Convolutional Neural Networks in MR Imaging Slices of the Patients with Legg-Calve-Perthes Disease Evrisimsel Sinir Aglari ile Legg-Calve-Perthes Hastalarina Ait MR Goruntuleme Kesitlerinde Femur Basi Bolutleme**  
Memis A., VARLI S., BİLGİLİ F.  
28th Signal Processing and Communications Applications Conference, SIU 2020, Gaziantep, Turkey, 5 - 07 October 2020
- XIV. A Brief Overview of Medical Software Tools Used in MR Image Segmentation**  
Memiş A., Varlı S., Bilgili F.  
TIPTEKNO 2018- Tıp Teknolojileri Kongresi, Gazimagusa, Cyprus (Kkct), 8 - 10 November 2018
- XV. Femoral head detection in perthes MR slices with circular hough transform**  
Memiş A., Varlı S., Bilgili F.  
26th Signal Processing and Communications Applications Conference (SIU 2018), İzmir, Turkey, 2 - 05 May 2018, pp.1-4
- XVI. Facial feature representation and face recognition with Neighborhood-based Binary Patterns Komsuluk-tabanlı İkili Örüntüler ile Yüz Özniteliği Betimleme ve Yüz Tanıma**  
Memis A.  
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.1-4
- XVII. 3D Detection of Spheric and Aspheric Femoral Heads in Coronal MR Images of Patients with Legg-Calve-Perthes Disease Using the Spherical Hough Transform**  
Memis A., VARLI S., BİLGİLİ F.  
3rd International Conference on Biomedical Imaging, Signal Processing (ICBSP), Bari, Italy, 11 - 13 October 2018, pp.42-48
- XVIII. Face Recognition on Mobile Environment Images Using Appearance Based Methods**  
Memis A., Karabiber F.  
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.169-172
- XIX. A Kinect based sign language recognition system using spatio-temporal features**  
Memiş A., Varlı S.  
The 6th International Conference on Machine Vision (ICMV 2013), London, England, 16 - 17 November 2013, pp.1-5
- XX. An Iris Recognition System Based on Angular Radial Partitioning and Statistical Texture Analysis with Sum & Difference Histogram**  
Memiş A., Varlı S., Battini Sönmez E.

2nd International Symposium on Computing in Informatics and Mathematics, Tirane, Albania, 26 - 28 September 2013, pp.1-7

- XXI. **Turkish Sign language recognition using spatio-temporal features on kinect RGB video sequences and depth maps Kinect RGB görüntülerde ve derinlik haritalarında uzam-zamansal özellikleri kullanarak türk işaret dili tanıma**

Memiş A., VARLI S.

2013 21st Signal Processing and Communications Applications Conference, SIU 2013, Haspolat, Turkey, 24 - 26 April 2013

- XXII. **Açısıl Radyal Parçalamaya ve İstatiksel Doku Analizine Dayalı İris Tanıma Sistemi**

Memiş A., Varlı S.

Akıllı Sistemlerde Yenilikler ve Uygulamaları Sempozyumu (ASYU 2010), Kayseri, Turkey, 21 - 24 June 2010, pp.1-5

## Supported Projects

Varlı S., Memiş A., Çalık N., Önenerk Men A. M., Topuz Y., Aydın Ülgen Ö., Urgancı N., Sertbudak İ., R&D Project of Group B, Tumor Stage Prediction and Mitosis Detection with Deep Learning in Melanoma Histopathology Images, 2022 - 2024

Varlı S., Saygılı A., Öztürk C. N., İkizceli T., Selçuk T., TUBITAK Project, Segmentation and Quantification of Cartilaginous and Meniscal Tissues in the Knee Joint MR Images, 2017 - 2019

Memiş A., TUBITAK Project, Modular Implementation of Fast and Reliable Biometric Authentication Systems in Mobile Environment, 2015 - 2017

Varlı S., Memiş A., Project Supported by Other Official Institutions, Sign language recognition using spatio-temporal features on Kinect RGB video sequences and depth maps, 2012 - 2013

## Metrics

Publication: 32

Citation (WoS): 47

Citation (Scopus): 69

H-Index (WoS): 5

H-Index (Scopus): 5

## Awards

Memiş A., Yıldız Technical University Best Doctoral Thesis Award (Automatic quantification of proximal femur shape deformities caused by the Legg-Calve-Perthes disease from magnetic resonance images), Yıldız Teknik Üniversitesi, July 2021