

## Asst. Prof. KALİ GÜRKAHRAMAN

### Personal Information

**Email:** kgurkahraman@cumhuriyet.edu.tr

**Web:** <https://avesis.cumhuriyet.edu.tr/kgurkahraman>

### International Researcher IDs

ScholarID: Cr0nQQkAAAAJ

ORCID: 0000-0002-0697-125X

Publons / Web Of Science ResearcherID: ADK-0395-2022

ScopusID: 53263794000

Yoksis Researcher ID: 110347

### Education Information

Post Doctorate, McGill University, Faculty of Medicine, Canada 2019 - 2020

Doctorate, Dokuz Eylul University, Fen Bilimleri Enstitüsü, Computer Engineering, Turkey 2004 - 2011

Postgraduate, Hacettepe University, Fen Bilimleri Enstitüsü, Elektrik Elektronik Mühendisliği A.B.D., Turkey 1998 - 2001

Undergraduate, Hacettepe University, Mühendislik Fakültesi, Elektrik Ve Elektronik Bölümü, Turkey 1990 - 1997

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Omni-directional vision based environment sensing for movement control of mobile robots, Dokuz Eylul University, Institute of Science, Computer Engineering, 2011

Postgraduate, Sayısal çıkarmalı anjiyografide görüntü artefaktlarının polinom yaklaşımlı geometrik dönüşümle düzeltilmesi, Hacettepe University, Fen Bilimleri Enstitüsü, 2001

### Research Areas

Image and Video Processing, Hiding Information, Computer Vision, Pattern Recognition and Image Processing, Neural Networks, Biomedical Image Processing

### Academic Titles / Tasks

Assistant Professor, Sivas Cumhuriyet University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2011 - Continues

Research Assistant, Dokuz Eylul University, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, 2004 - 2011

Research Assistant, Sivas Cumhuriyet University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2003 - 2004

## Academic and Administrative Experience

Head of Department, Sivas Cumhuriyet University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2012 - Continues  
Head of Department, Sivas Cumhuriyet University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2015 - 2017

## Courses

Sinyaller ve Sistemler, Undergraduate, 2018 - 2019  
Görüntü Analizi ve Bilgisayarla Görme, Postgraduate, 2018 - 2019  
Sinyaller ve Sistemler, Undergraduate, 2018 - 2019  
Uzmanlık Alan Dersi, Postgraduate, 2019 - 2020  
Sayısal Görüntü İşleme, Undergraduate, 2018 - 2019  
Sayısal Görüntü İşleme, Undergraduate, 2018 - 2019  
Mikroişlemciler, Undergraduate, 2018 - 2019  
Seminer Dersi, Postgraduate, 2017 - 2018  
Mikroişlemciler, Undergraduate, 2018 - 2019  
Tez Çalışması, Postgraduate, 2018 - 2019  
Paralel Programlama, Undergraduate, 2016 - 2017  
Paralel Programlama, Undergraduate, 2016 - 2017  
Algoritma Analizi, Undergraduate, 2016 - 2017  
Algoritma Analizi, Undergraduate, 2016 - 2017  
Optiksel Tasarım, Postgraduate, 2016 - 2017  
Mühendislik Projesi, Undergraduate, 2016 - 2017  
Mühendislik Projesi, Undergraduate, 2016 - 2017  
Devre Teorisine Giriş, Undergraduate, 2014 - 2015  
Devre Teorisine Giriş, Undergraduate, 2014 - 2015  
Algoritmalar ve Programlama Lab., Undergraduate, 2014 - 2015  
WEB Teknolojileri, Undergraduate, 2014 - 2015  
Bilgisayar Uygulamaları, Undergraduate, 2013 - 2014  
Algoritmalar ve Programlama Lab., Undergraduate, 2014 - 2015  
Proses Enstrumantasyon, Undergraduate, 2014 - 2015  
WEB Teknolojileri, Undergraduate, 2014 - 2015  
Bilgisayar Uygulamaları, Undergraduate, 2013 - 2014  
Proses Enstrumantasyon, Undergraduate, 2014 - 2015  
Algoritmalar ve Programlama, Undergraduate, 2014 - 2015  
Algoritmalar ve Programlama, Undergraduate, 2014 - 2015  
Elektrik Ölçme Tekniği, Undergraduate, 2013 - 2014  
Elektrik Ölçme Tekniği, Undergraduate, 2013 - 2014  
Elektronik II, Undergraduate, 2012 - 2013  
Bilgisayar - II, Undergraduate, 2011 - 2012  
Bilgisayar - II, Undergraduate, 2011 - 2012  
Bilgisayar - II, Undergraduate, 2011 - 2012  
Elektronik I, Undergraduate, 2012 - 2013  
Temel Bilgi Teknolojileri Kullanımı, Undergraduate, 2011 - 2012  
Temel Bilgi Teknolojileri Kullanımı, Undergraduate, 2011 - 2012  
Temel Bilgisayar Teknolojileri Kullanımı, Undergraduate, 2011 - 2012  
Temel Bilgisayar Teknolojileri Kullanımı, Undergraduate, 2011 - 2012

## Advising Theses

Gürkahraman K., Parametrik eğrilerle bir nesne şablonunun 2B şeklini yeniden oluşturmak için yeni bir kontur izleme

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

- I. **Deep learning prediction of motor performance in stroke individuals using neuroimaging data**  
Karakış R., Gürkahraman K., Mitsis G. D., Boudrias M.  
JOURNAL OF BIOMEDICAL INFORMATICS, vol.141, pp.1-13, 2023 (SCI-Expanded)
- II. **A Novel Contour Tracing Algorithm for Object Shape Reconstruction Using Parametric Curves**  
Arslan N., GÜRKAHRAMAN K.  
Computers, Materials and Continua, vol.75, no.1, pp.331-350, 2023 (SCI-Expanded)
- III. **Improving Brain Tumor Classification with Deep Learning Using Synthetic Data**  
Yapici M. M., Karakış R., Gurkahraman K.  
COMPUTERS, MATERIALS AND CONTINUA, vol.74, no.3, pp.5049-5067, 2023 (SCI-Expanded)
- IV. **Brain tumors classification with deep learning using data augmentation**  
Gürkahraman K., Karakış R.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.36, no.2, pp.997-1011, 2021 (SCI-Expanded)
- V. **Evaluation of segmented brain regions for medical image steganography**  
Karakış R., Gürkahraman K., Çiğdem B., Öztoprak İ., Topaktas A. S.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.36, no.4, pp.2301-2314, 2021 (SCI-Expanded)
- VI. **Omni-directional vision system with fibre grating device for obstacle detection**  
Gurkahraman K., Unsal E., Çebi Y.  
IET COMPUTER VISION, vol.5, no.5, pp.267-281, 2011 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Brain Extraction from Magnetic Resonance Images Using UNet modified with Residual and Dense Layers**  
GÜRKAHRAMAN K., DAŞGIN Ç.  
Türk Doğa ve Fen Dergisi, vol.12, no.3, pp.144-151, 2023 (Peer-Reviewed Journal)
- II. **A Novel Color Image Watermarking Method with Adaptive Scaling Factor Using Similarity-Based Edge Region**  
Gürkahraman K., Karakış R., Takcı H.  
COMPUTER SYSTEMS SCIENCE AND ENGINEERING, vol.47, no.1, pp.55-77, 2023 (Scopus)
- III. **EDGE-BASED WATERMARKING IN REGIONS OF NONE INTEREST FOR THE SECURITY OF MEDICAL IMAGES**  
Karakış R., Gürkahraman K.  
Adıyaman Üniversitesi Mühendislik Bilimleri Dergisi, vol.8, no.14, pp.154-168, 2021 (Peer-Reviewed Journal)
- IV. **Steganalysis with Deep Learning on Medical Images**  
Karakış R., Gürkahraman K.  
INTERNATIONAL JOURNAL OF INFORMATICS TECHNOLOGIES, vol.14, no.2, pp.151-159, 2021 (Peer-Reviewed Journal)
- V. **A Matching Model to Measure Compliance between Department and Student**  
TAKCI H., GÜRKAHRAMAN K., ÜNSAL E., YELKUVAN A. F.  
Cumhuriyet Science Journal, vol.41, no.2, pp.467-471, 2020 (Peer-Reviewed Journal)

## Books & Book Chapters

**I. Chapter 10: Data Augmentation in the Analysis of Neuroimages with Deep Learning**

KARAKIŞ R., GÜRKAHRAMAN K.

in: Artificial Intelligence Applications in Medicine, FUAT TÜRK, Editor, Hipokrat Yayıncılık-MediHealth Academy, Ankara, pp.79-88, 2022

**Refereed Congress / Symposium Publications in Proceedings**

- I. Artık Bağlantılar ile Düzenlenen U-Net Mimarisi Kullanarak Beyin Çıkarımı**  
DAŞGIN Ç., GÜRKAHRAMAN K.  
5th International Conference on Applied Engineering and Natural Sciences ICAENS 2023, Konya, Turkey, 10 - 12 July 2023, pp.348
- II. Evrişimsel Sinir Ağlarında Kullanılan Havuzlama Yöntemlerinin Çoklu Sınıflandırma İçin Karşılaştırılması**  
ARSLAN P., GÜRKAHRAMAN K.  
11. Uluslararası Akademik Araştırmalar Kongresi (ICAR), Turkey, 25 - 26 July 2023, pp.226-227
- III. Edge-Based Image Watermarking Method with Weighted Discrete Cosine Transform Coefficients Ayrik Kosinüs Dönüşümü Katsayılarının Ağırlıklandırıldığı Kenar Tabanlı Görüntü Damgalama Yöntemi**  
Karakış R., Gürkahraman K.  
30th Signal Processing and Communications Applications Conference, SIU 2022, Safranbolu, Turkey, 15 - 18 May 2022
- IV. Bézier and B-spline Curve Definition of Outer Boundary of an Object Template Using Sequential Edge Points**  
Arslan N., Gürkahraman K.  
International Conference on Engineering Technologies (ICENTE'21), Konya, Turkey, 18 - 20 November 2021, pp.575-579
- V. HIDING PATIENT INFORMATION INTO MAGNETIC RESONANCE IMAGES USING DNA BASED WAVELET TRANSFORM**  
Karakış R., Gürkahraman K., Çiğdem B., Öztoprak İ., Topaktaş A. S.  
The International Journal of Arts Sciences' (IJAS) American Canadian Conference for Engineering and Technology, Montreal, Canada, 30 May - 02 June 2018, vol.8, pp.161-170
- VI. SEEKING CORRELATIONS BETWEEN DEMOGRAPHIC DATA AND ACHIEVEMENT LEVELS OF COMPUTER ENGINEERING STUDENTS**  
TAKCI H., GÜRKAHRAMAN K., ÜNSAL E., YELKUVAN A. F.  
3rd International Congress on Education Sciences and Learning Technology (ICESLT), 15 - 19 November 2017
- VII. A MATCHING MODEL TO MEASURE COMPLIANCE BETWEEN DEPARTMENT AND STUDENT**  
TAKCI H., GÜRKAHRAMAN K., USTA H. G., ÜNSAL E., YELKUVAN A. F.  
3rd International Congress on Education Sciences and Learning Technology (ICESLT), 15 - 19 November 2017
- VIII. Embedding Patient Information into Region of Non Interests for Medical Images Using DNA Encryption**  
KARAKIŞ R., GÜRKAHRAMAN K.  
International Conference on Engineering Technologies (ICENTE'17), Konya, Turkey, 7 - 09 December 2017, pp.33
- IX. IMPROVEMENT OF INCORRECT VELOCITY VECTORS IN PARTICLE IMAGE VELOCIMETRY USING ORDER STATISTICAL METHOD**  
GÜRKAHRAMAN K., KARAKIŞ R., TEMEL Ü. N.  
International Conference on Engineering Technologies (ICENTE'17), Konya, Turkey, 7 - 09 December 2017, pp.30
- X. Virtual Hair Production and Hair Simulation with Position Based Dynamics**  
GÜRKAHRAMAN K., YELKUVAN A. F., Karakurt Ş.  
8th International Advanced Technologies Symposium (IATS'2017), 19 - 22 October 2017
- XI. An Implementation of DNA based Security Model in Medical Data**

KARAKIŞ R., GÜRKAHRAMAN K.

The 3th International Conference on Engineering and Natural Sciences (ICENS 2017), Budapest, Hungary, 4 - 06 May 2017, pp.1105-1110

**XII. Measurement of the appropriateness in career selection of the high school students by using data mining algorithms: A case study**

TAKCI H., GÜRKAHRAMAN K., Yelkuvan A. F.

Federated Conference on Computer Science and Information Systems (FedCSIS), Prague, Czech Republic, 3 - 06 September 2017, pp.113-117

## Supported Projects

Karakış R., Gürkahraman K., Çiğdem B., Ünsal E., Project Supported by Higher Education Institutions, A Deep Learning Framework for Early Detection of Alzheimer and Mild Cognitive Impairment Diseases Using Neuroimages: DeepBrain, 2023 - 2025

Gürkahraman K., KOSGEB, Inncreawatch, 2021 - 2023

Gürkahraman K., Project Supported by Public Organizations in Other Countries, Nöro Görüntülerde Fiber Bağlantılarının Derin Öğrenme ile Bölütlenerek İnme Hastalarının İyileşme Süreçlerinin Değerlendirilmesi, 2019 - 2020

Karakış R., Gürkahraman K., Çiğdem B., Öztoprak İ., Topaktaş A. S., Project Supported by Higher Education Institutions, Epileptik Hastalara ait Elektroensefalogram ve Manyetik Rezonans Görüntüsü Verileri için Veri Gizleme Uygulaması, 2017 - 2019

Takci H., Gürkahraman K., TUBITAK Project, Uygun bölüm seçimi için bölüm ve öğrenci arasında iki taraflı bir eşleşme sistemi tasarımı, 2016 - 2018

Gürkahraman K., Ünsal E., Çebi Y., Project Supported by Higher Education Institutions, Izgara Desenli Lazer Görüntüsü Yardımı İle Bulunulan Ortamın Üç Boyutlu Yapısının Algılanması, 2009 - 2011

Gürkahraman K., Ünsal E., Çebi Y., TUBITAK Project, Eğrisel Ayna ve Matris Desenli Lazer Noktalar Kullanarak Çevrenin Üç Boyutlu Yapısını Oluşturan Tümyönlü Omni Directional Bir Görüntüleme Sisteminin Geliştirilmesi, 2008 - 2009

## Metrics

Publication: 26

Citation (WoS): 2

Citation (Scopus): 24

H-Index (WoS): 1

H-Index (Scopus): 3

## Non Academic Experience

McGill University

US X-RAY