

## Prof. Gökhan BİLGİN

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: W-2666-2018

ScopusID: 8362224100

Yoksis Researcher ID: 27509

### Biography

Gokhan Bilgin received B.Sc., M.Sc., and Ph.D. degrees in Electronics and Telecommunication Engineering from Yıldız Technical University (YTU), İstanbul, Turkey, in 1999, 2003, and 2009, respectively. He worked as post-doctorate researcher at Computer Aided Diagnosis and Knowledge Discovery Laboratory (CADKD) of the Department of Computer and Information Science at Indiana University–Purdue University Indianapolis (IUPUI). He is currently working as a Professor in Department of Computer Engineering at Yıldız Technical University. His research interests are in the areas of image and signal processing, machine learning, and pattern recognition with applications to biomedical engineering and remote sensing. He is the founder of Signal and Image Processing Laboratory (SIMPLAB, [www.simplab.yildiz.edu.tr](http://www.simplab.yildiz.edu.tr)) in Department of Computer Engineering at Yıldız Technical University.

### Education Information

Doctorate, Yıldız Technical University, Elektrik Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği, Turkey 2003 - 2009

Postgraduate, Yıldız Technical University, Elektrik Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği, Turkey 2000 - 2003

Undergraduate, Yıldız Technical University, Elektrik Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği, Turkey 1995 - 1999

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Unsupervised Segmentation of Hyperspectral Images, Yıldız Teknik Üniversitesi, Graduate School of Natural and Applied Sciences, Elektronik Ve Haberleşme Mühendisliği, 2009

Postgraduate, Image Compression with Wavelet Transform and Set Partitioning in Hierarchical Trees Method, Yıldız Teknik Üniversitesi, Graduate School of Natural and Applied Sciences, Elektronik Ve Haberleşme Mühendisliği, 2003

## Research Areas

Earth Observations (Remote Sensing), Information Systems, Communication and Control Engineering, Signal Processing, Image and Video Processing, Pattern Recognition and Analysis, Computer Sciences, Computer Vision, Equipment, Artificial Intelligence, Computer Learning and Pattern Recognition, Biomedical Engineering, Electrical and Electronics Engineering, Engineering and Technology

## Academic Titles / Tasks

Professor, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2023 - Continues  
Associate Professor, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2017 - 2023  
Assistant Professor, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2010 - 2017  
Research Assistant PhD, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2009 - 2010  
Research Assistant, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2005 - 2009  
Research Assistant, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2001 - 2004

## Academic and Administrative Experience

Yıldız Teknik Üniversitesi, Bilgisayar Mühendisliği Bölümü, 2005 - Continues  
Deputy Head of Department, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2021 - 2023

## Advising Theses

Bilgin G., Histopatolojik Görüntülerde Topluluk Öğrenme Yöntemleri, Doctorate, K.Güzel(Student), Continues  
Bilgin G., Histopatolojik Görüntülerin Derin Öğrenme Algoritmaları ile Bölütlenmesi, Doctorate, N.Hatipoğlu(Student), Continues  
Bilgin G., Cancer Detection from High Resolutional Histopathological Images, Doctorate, Ö.Faruk(Student), Continues  
Bilgin G., Graph Representation Learning for Histopathological Images, Postgraduate, E.TEPE(Student), 2022  
Bilgin G., Emotion and gender identification on speech signals using deep learning methods, Postgraduate, Ö.ÖZDEMİR(Student), 2022  
Bilgin G., Use of spatial information in classification and segmentation of synthetic aperture radar images, Doctorate, Ü.GÖKDAĞ(Student), 2022  
Bilgin G., Hiperspektral görüntü analizinde ileri spektral ve uzamsal yöntemler, Doctorate, İ.ONUR(Student), 2022  
Serbes A., Bilgin G., Design of speaker diarization with speaker embeddings, Postgraduate, M.MESUT(Student), 2020  
Balık Şanlı F., Bilgin G., The Usability of Polarimetric SAR Images for Crop Pattern Identification:Comparative Analysis, Doctorate, M.ÜSTÜNER(Student), 2020  
Bilgin G., Uzamsal bilgi kullanarak histopatolojik görüntü analizi, Postgraduate, M.EMİN(Student), 2020  
Bilgin G., Detection and Classification of Nuclei in Histopathological Images, Postgraduate, R.SAFI(Student), 2019  
Bilgin G., Audio Fingerprinting Using Wavelet Transform, Postgraduate, E.KANALICI(Student), 2019  
Bilgin G., Histopatolojik Görüntülerde Çoklu Örnekli Öğrenme ile Hücre Bölütleme, Postgraduate, S.KAYA(Student), 2019  
Bilgin G., Hiperspektral görüntülerde yarı güdümlü öğrenme teknikleri, Doctorate, M.SAİD(Student), 2019  
Bilgin G., Classification of hyperspectral images with ensemble learning methods, Doctorate, U.ERGÜL(Student), 2019  
Bilgin G., Histopatolojik Görüntülerin Makine Öğrenmesi Yöntemleri ile Analizi, Doctorate, A.Albayrak(Student), 2018  
Bilgin G., Biyomedikal İşaret ve Görüntülerde Görgül Kip Ayırışımı, Postgraduate, Ö.Faruk(Student), 2015  
Bilgin G., Histopatolojik Görüntülerde Mitoz Belirleme, Postgraduate, A.Albayrak(Student), 2013  
Bilgin G., Hiperspektral Görüntülerde Spektral Ve Uzamsal Enformasyonun Ortaklaşa Kullanımı İle Sınıflandırılması Ve

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

- I. **Classification of Cervical Precursor Lesions via Local Histogram and Cell Morphometric Features**  
Calik N., Albayrak A., Akhan A., Turkmen I., Çapar A., Töreyn B. U., BİLGİN G., Muezzinoglu B., Durak Ata L.  
IEEE Journal of Biomedical and Health Informatics, vol.27, no.4, pp.1747-1757, 2023 (SCI-Expanded)
- II. **Detection of mitotic cells in breast cancer histopathological images using deep versus handcrafted features**  
Sigirci I. O., Albayrak A., Bilgin G.  
MULTIMEDIA TOOLS AND APPLICATIONS, vol.81, no.10, pp.13179-13202, 2022 (SCI-Expanded)
- III. **A modified SLIC-based superpixel segmentation for hyperspectral images**  
Sigirci I. O., Bilgin G.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.38, no.1, pp.399-407, 2022 (SCI-Expanded)
- IV. **Spectral-Spatial Classification of Hyperspectral Images Using BERT-Based Methods With HyperSLIC Segment Embeddings**  
Sigirci I. O., Bilgin G.  
IEEE ACCESS, vol.10, pp.79152-79164, 2022 (SCI-Expanded)
- V. **SAR image classification post-processing with multiscale complementary Gaussian kernel weighting**  
Gokdag U., BİLGİN G.  
SIGNAL IMAGE AND VIDEO PROCESSING, vol.15, no.7, pp.1425-1433, 2021 (SCI-Expanded)
- VI. **A whole-slide image grading benchmark and tissue classification for cervical cancer precursor lesions with inter-observer variability**  
Albayrak A., Akhan A. U., ÇALIK N., Çapar A., BİLGİN G., Töreyn B. U., Muezzinoglu B., Turkmen I., Durak Ata L.  
MEDICAL & BIOLOGICAL ENGINEERING & COMPUTING, vol.59, no.7-8, pp.1545-1561, 2021 (SCI-Expanded)
- VII. **Semi-supervised sparse representation classifier ((SRC)-R-3) with deep features on small sample sized hyperspectral images**  
Aydemir M. S., Bilgin G.  
NEUROCOMPUTING, vol.399, pp.213-226, 2020 (SCI-Expanded)
- VIII. **MCK-ELM: multiple composite kernel extreme learning machine for hyperspectral images**  
Ergul U., Bilgin G.  
NEURAL COMPUTING & APPLICATIONS, vol.32, pp.6809-6819, 2020 (SCI-Expanded)
- IX. **Semisupervised Hyperspectral Image Classification Using Deep Features**  
Aydemir M. S., Bilgin G.  
IEEE JOURNAL OF SELECTED TOPICS IN APPLIED EARTH OBSERVATIONS AND REMOTE SENSING, vol.12, pp.3615-3622, 2019 (SCI-Expanded)
- X. **HCKBoost: Hybridized composite kernel boosting with extreme learning machines for hyperspectral image classification**  
Ergul U., Bilgin G.  
NEUROCOMPUTING, vol.334, pp.100-113, 2019 (SCI-Expanded)
- XI. **Automatic cell segmentation in histopathological images via two-staged superpixel-based algorithms**  
Albayrak A., Bilgin G.  
MEDICAL & BIOLOGICAL ENGINEERING & COMPUTING, vol.57, no.3, pp.653-665, 2019 (SCI-Expanded)
- XII. **Multiple-instance ensemble learning for hyperspectral images**  
Ergul U., Bilgin G.  
JOURNAL OF APPLIED REMOTE SENSING, vol.11, 2017 (SCI-Expanded)
- XIII. **Cell segmentation in histopathological images with deep learning algorithms by utilizing spatial relationships**  
Hatipoglu N., Bilgin G.

- MEDICAL & BIOLOGICAL ENGINEERING & COMPUTING, vol.55, pp.1829-1848, 2017 (SCI-Expanded)
- XIV. **Semisupervised Hyperspectral Image Classification Using Small Sample Sizes**  
AYDEMİR M. S., BİLGİN G.  
IEEE GEOSCIENCE AND REMOTE SENSING LETTERS, vol.14, no.5, pp.621-625, 2017 (SCI-Expanded)
- XV. **Integration of spectral and spatial information via local covariance matrices for segmentation and classification of hyperspectral images**  
Ergul U., Bilgin G.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.24, no.6, pp.4824-4838, 2016 (SCI-Expanded)
- XVI. **Kernel Fukunaga-Koontz Transform Subspaces for Classification of Hyperspectral Images With Small Sample Sizes**  
Binol H., BİLGİN G., Dinc S., Bal A.  
IEEE GEOSCIENCE AND REMOTE SENSING LETTERS, vol.12, no.6, pp.1287-1291, 2015 (SCI-Expanded)
- XVII. **Enhancing land use classification with fusing dual-polarized TerraSAR-X and multispectral RapidEye data**  
Abdikan S., BİLGİN G., Sanli F. B., USLU E., ÜSTÜNER M.  
JOURNAL OF APPLIED REMOTE SENSING, vol.9, 2015 (SCI-Expanded)
- XVIII. **Segmentation of Hyperspectral Images via Subtractive Clustering and Cluster Validation Using One-Class Support Vector Machines**  
BİLGİN G., ERTÜRK S., YILDIRIM T.  
IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, vol.49, no.8, pp.2936-2944, 2011 (SCI-Expanded)
- XIX. **Computerized Classification of Intraductal Breast Lesions Using Histopathological Images**  
Dundar M. M., Badve S., Bilgin G., Raykar V., Jain R., Sertel O., Gurcan M. N.  
IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING, vol.58, no.7, pp.1977-1984, 2011 (SCI-Expanded)
- XX. **Unsupervised Classification of Hyperspectral-Image Data Using Fuzzy Approaches That Spatially Exploit Membership Relations**  
Bilgin G., ERTÜRK S., Yildirim T.  
IEEE GEOSCIENCE AND REMOTE SENSING LETTERS, vol.5, no.4, pp.673-677, 2008 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Classification of Breast Cancer Images Using Ensembles of Transfer Learning**  
Güzel K., Bilgin G.  
Sakarya University Journal of Science, vol.24, no.5, pp.791-802, 2020 (Peer-Reviewed Journal)
- II. **Hafif Gradyan Artırma Makineleri ile Tarımsal Ürünlerin Sınıflandırılması**  
Üstüner M., Abdikan S., Bilgin G., Balık Şanlı F.  
Turkish Journal of Remote Sensing and GIS, vol.1, no.2, pp.97-105, 2020 (Peer-Reviewed Journal)
- III. **Scattering Wavelet Hash Fingerprints for Musical Audio Recognition**  
Kanalıcı E., Bilgin G.  
International Journal of Innovative Technology and Exploring Engineering, vol.8, pp.1011-1015, 2019 (Peer-Reviewed Journal)
- IV. **Serviks Kanserinin Erken Teşhisi için Çok Katmanlı Sitoloji Küplerinde Çekirdek ve Sitoplazma Bölütlenmesi**  
Melek C. G., Bilgin G.  
Süleyman Demirel Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.22, no.2, pp.727-735, 2018 (Peer-Reviewed Journal)
- V. **Sleep stage classification via ensemble and conventional machine learning methods using single channel EEG signals**  
Ilhan H. O., Bilgin G.  
International Journal of Intelligent Systems and Applications in Engineering, vol.5, no.4, pp.174-184, 2017 (Peer-

Reviewed Journal)

**VI. Sleep Apnea Detection Using Adaptive Neuro Fuzzy Inference System**

Avcı C., Bilgin G.

Engineering, vol.5, pp.259-263, 2013 (Peer-Reviewed Journal)

**Refereed Congress / Symposium Publications in Proceedings**

- I. **Classification of Breast Cancer Subtypes Using Deep Learning Methods Göğüs Kanseri Alt Türlerinin Derin Öğrenme Yöntemleri Kullanılarak Sınıflandırılması**  
Izmirlioglu E., Atas A. E., BİLGİN G.  
32nd IEEE Conference on Signal Processing and Communications Applications, SIU 2024, Mersin, Turkey, 15 - 18 May 2024
- II. **Examining the Effect of Color Spaces on Histopathological Image Segmentation with the SHAP Explainable AI Method Renk Uzaylarının Histopatolojik Görüntü Bölütlemeye Etkisinin SHAP Açıklanabilir Yapay Zeka Yöntemiyle İncelenmesi**  
KARAASLAN Ö. F., BİLGİN G.  
32nd IEEE Conference on Signal Processing and Communications Applications, SIU 2024, Mersin, Turkey, 15 - 18 May 2024
- III. **Deep Learning Approach to Improve Breast Cancer Classification for Screening Mammography Tarama Mamografisinde Meme Kanseri Sınıflandırmasını İyileştirmeye Yönelik Derin Öğrenme Yaklaşımı**  
Farajı F., BİLGİN G.  
32nd IEEE Conference on Signal Processing and Communications Applications, SIU 2024, Mersin, Turkey, 15 - 18 May 2024
- IV. **Segmentation, Detection and Tracking of Video Objects for Interactive Video Editing Application**  
Koyuncuoğlu K., Erdemli A., Incedal H. I., BİLGİN G.  
International Conference on Computer Science and Engineering (UBMK), Burdur, Turkey, 13 September 2023, vol.1, pp.399-402
- V. **Hyperspectral Images Classification with Deep Bayesian Neural Networks**  
Qadir M. S., BİLGİN G.  
International Conference on Computer Science, Machine Learning and Big Data, İstanbul, Turkey, 05 March 2023, vol.1, pp.20-28
- VI. **SARS-CoV-2 Detection Using Chest X-Ray Images with Deep Learning Methods**  
AYDOĞAN E., GENÇ A., BİLGİN G.  
IEEE Tıp Teknolojileri Kongresi (TIPTEKNO'22), Antalya, Turkey, 31 October - 02 November 2022, pp.1-4
- VII. **Graph Neural Networks for Colorectal Histopathological Image Classification**  
TEPE E., BİLGİN G.  
IEEE Tıp Teknolojileri Kongresi (TIPTEKNO'22), Antalya, Turkey, 31 October - 02 November 2022, pp.1-4
- VIII. **Comprehensive Analysis of Deep Learning Methods on Gender Identification Using Speech Signals**  
ÖZDEMİR Ö., BİLGİN G.  
IEEE Innovations in Intelligent Systems and Applications Conference (ASYU'22), Antalya, Turkey, 07 September 2022, pp.1-6
- IX. **Deep Transfer Learning Methods for Classification Colorectal Cancer Based on Histology Images**  
Alhanaf A. S., Al-jumaili S., BİLGİN G., DURU A. D., Alyassri S., BALIK H. H.  
2022 International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT), Turkey, 20 October 2022
- X. **Classification of Breast Cancer Histopathological Images with Deep Transfer Learning Methods**  
TEZCAN C. E., KİRAS B., BİLGİN G.  
IEEE 30th Signal Processing and Communications Applications Conference (SIU'22), Safranbolu, Turkey, 15 - 18 May 2022, pp.1-4

- XI. **Classification of Tissue Types in Histology Images Using Graph Convolutional Networks**  
TEPE E., BİLGİN G.  
IEEE 10th International Symposium on Digital Forensics and Security, ISDFS'22, İstanbul, Turkey, 06 June 2022, pp.1-3
- XII. **Classification of Breast Cancer Images by Transfer Learning Approach Using Different Patching Sizes**  
CELİK E., BİLGİN G.  
2021 Medical Technologies Congress (TIPTEKNO'21), Antalya, Turkey, 4 - 06 November 2021, vol.1, pp.1-4
- XIII. **Semantic Segmentation of Histopathological Images with Fully and Dilated Convolutional Networks**  
TURHAN H., BİLGİN G.  
2021 Medical Technologies Congress (TIPTEKNO'21), Antalya, Turkey, 4 - 06 November 2021, vol.1, pp.1-4
- XIV. **Classification of Histopathological Images by Spatial Feature Extraction and Morphological Methods**  
TEZCAN C. E., KIRAS B., BİLGİN G.  
2021 Medical Technologies Congress (TIPTEKNO'21), Antalya, Turkey, 04 November 2021, vol.1, pp.1-4
- XV. **Segmentation of Nucleus in Histopathological Images Using Deep Learning Architectures**  
AYAZ O., USTA H., BİLGİN G.  
2021 Medical Technologies Congress (TIPTEKNO'21), Antalya, Turkey, 04 November 2021, vol.1, pp.1-4
- XVI. **Histopathological Image Segmentation Using U-Net Based Models**  
HATİPOĞLU N., BİLGİN G.  
2021 Medical Technologies Congress (TIPTEKNO'21), Antalya, Turkey, 4 - 06 November 2021, vol.1, pp.1-4
- XVII. **Auto-correlation for Predicting Neutral Emotion State on Speech Emotion Recognition**  
ÖZDEMİR Ö., BİLGİN G.  
IEEE Akıllı Sistemlerde Yenilikler ve Uygulamaları Konferansı (ASYU'21), Elazığ, Turkey, 6 - 08 October 2021, vol.1, pp.1-5
- XVIII. **Comparison of Data-Driven and Morphological Features for Cell Segmentation in Histopathological Images**  
KARAASLAN Ö. F., BİLGİN G.  
IEEE 29th Signal Processing and Communications Applications Conference (SIU'21), İstanbul, Turkey, 9 - 11 June 2021, vol.1, pp.1-4
- XIX. **Feature Extraction with Bidirectional Encoder Representations from Transformers in Hyperspectral Images**  
SİĞİRCİ İ. O., BİLGİN G., HAKAN Ö.  
2020 28th Signal Processing and Communications Applications Conference (SIU), Gaziantep, Turkey, 5 - 07 October 2020, pp.1-4
- XX. **Classification of Breast Cancer Histopathology Images by Cell-Centered Deep Learning Approach**  
EĞRİBOZ E., GÖKÇEN B., BİLGİN G.  
2020 28th Signal Processing and Communications Applications Conference (SIU), Gaziantep, Turkey, 5 - 07 October 2020, pp.1-4
- XXI. **Speaker Diarization using Embedding Vectors**  
Toruk M. M., Bilgin G., Serbes A.  
2020 28th Signal Processing and Communications Applications Conference (SIU), Gaziantep, Turkey, 5 - 07 October 2020, pp.1-4
- XXII. **Cell Segmentation in Triple-Negative Breast Cancer Histopathological Images Using U-Net Architecture**  
BAĞDİKEN M. E., BİLGİN G.  
2020 28th Signal Processing and Communications Applications Conference (SIU), Gaziantep, Turkey, 5 - 07 October 2020, pp.1-4
- XXIII. **Comparison of Variational Mode Decomposition and Empirical Mode Decomposition Features for Cell Segmentation in Histopathological Images**  
KARAASLAN Ö. F., BİLGİN G.  
2020 Medical Technologies Congress (TIPTEKNO), Antalya, Turkey, 19 - 20 November 2020, pp.1-4
- XXIV. **Classification of Malignant Lymphoma Types Using Convolutional Neural Network**

- HATİPOĞLU N., BİLGİN G.  
2020 Medical Technologies Congress (TIPTEKNO), Antalya, Turkey, 19 - 20 November 2020, pp.1-4
- XXV. **Transfer Learning Methods for Using Textural Features in Histopathological Image Classification**  
ÇETİNDAG S. C., GURAN K., BİLGİN G.  
2020 Medical Technologies Congress (TIPTEKNO), Antalya, Turkey, 19 - 20 November 2020, pp.1-4
- XXVI. **À Trous Wavelet Decomposition Based Hyperspectral Image Classification**  
Genç F. Z., Bilgin G.  
IEEE Innovations in Intelligent Systems and Applications Conference (ASYU 2020), İstanbul, Turkey, 15 - 17 October 2020, pp.1-4
- XXVII. **Visual Saliency Aided SAR and Optical Image Matching**  
ÇITAK E., BİLGİN G.  
IEEE Innovations in Intelligent Systems and Applications Conference (ASYU 2019), İzmir, Turkey, 31 October - 02 November 2019, pp.1-5
- XXVIII. **Speech Segmentation and Speaker Diarization using Time-Delay Neural Network**  
TORUK M., SERBES A., BİLGİN G.  
IEEE Innovations in Intelligent Systems and Applications Conference (ASYU 2019), İzmir, Turkey, 31 October - 02 November 2019, pp.1-5
- XXIX. **Classification of Nuclei in Colon Cancer Images using Ensemble of Deep Learned Features**  
GUZEL K., BİLGİN G.  
IEEE Medical Technologies Congress (TIPTEKNO 2019), Aydın, Turkey, 3 - 05 October 2019, pp.1-4
- XXX. **Detection and Grading of Breast Cancer via Spatial Features in Histopathological Images**  
BAGDIKEN M. E., BİLGİN G.  
IEEE Medical Technologies Congress (TIPTEKNO 2019), Aydın, Turkey, 3 - 05 October 2019, pp.1-4
- XXXI. **Classification of Cell Types on Histopathological Images Using Local Binary Patterns**  
OZER H. S., DEMİR C., BİLGİN G.  
IEEE Medical Technologies Congress (TIPTEKNO 2019), Aydın, Turkey, 3 - 05 October 2019, pp.1-4
- XXXII. **Mitosis Detection in Multispectral Histopathological Images with Deep Learning**  
HAZRATOV S., BİLGİN G.  
IEEE Medical Technologies Congress (TIPTEKNO 2019), Aydın, Turkey, 3 - 05 October 2019, pp.1-4
- XXXIII. **Cell Segmentation Using Multiple Instance Learning Based Support Vector Machines**  
KAYA S., BİLGİN G.  
IEEE Medical Technologies Congress (TIPTEKNO 2019), Aydın, Turkey, 3 - 05 October 2019, pp.1-4
- XXXIV. **Classification of Different Tissue Types in Histopathological Images with Conventional and Deep Learning Methods**  
ARAFAL N., BAYRAMOĞLU O. Z., BİLGİN G.  
IEEE Medical Technologies Congress (TIPTEKNO 2019), Aydın, Turkey, 3 - 05 October 2019, pp.1-4
- XXXV. **A Booster Analysis of Extreme Gradient Boosting for Crop Classification using PolSAR Imagery**  
ÜSTÜNER M., BALIK ŞANLI F., ABDİKAN S., GÖKSEL Ç., BİLGİN G.  
IEEE 8th International Conference on Agro-Geoinformatics (Agro-Geoinformatics 2019), İstanbul, Turkey, Turkey, 16 - 19 July 2019, pp.1-4
- XXXVI. **Classification of FTIR Spectra of Olive Oil with Features of Variational Mode Decomposition and Wavelet Transform**  
KARAASLAN Ö. F., BİLGİN G.  
IEEE 27th Signal Processing and Communications Applications Conference (SIU 2019), Sivas, Turkey, 24 - 26 April 2019, pp.1-4
- XXXVII. **Music Genre Classification via Sequential Wavelet Scattering Feature Learning**  
KANALICI E., BİLGİN G.  
The 12th International Conference on Knowledge Science, Engineering and Management (KSEM 2019), Athens, Greece, 28 - 30 August 2019, vol.11776, pp.365-372
- XXXVIII. **Use of Spatial Information via Markov and Conditional Random Fields in Histopathological Images**  
JAMAL S. B., BİLGİN G.

- IEEE 42nd International Conference on Telecommunications and Signal Processing (TSP 2019), Budapest, Hungary, 1 - 03 July 2019, pp.71-75
- XXXIX. **Nuclei Classification in Histopathological Images via Local Phase Quantization and Convolutional Neural Network**  
Abed Alah R. S., BİLGİN G.  
IEEE Scientific Meeting on Electrical-Electronics Biomedical Engineering and Computer Science (EBBT 2019), İstanbul, Turkey, 24 - 26 April 2019, pp.1-5
- XL. **Textural feature extraction and multiple instance learning for cell segmentation in histopathological images**  
KAYA S., BİLGİN G.  
IEEE Scientific Meeting on Electrical-Electronics Biomedical Engineering and Computer Science (EBBT 2019), İstanbul, Turkey, 24 - 26 April 2019, pp.1-6
- XLI. **Semantic nuclei segmentation with deep learning on breast pathology images**  
TURAN S., BİLGİN G.  
IEEE Scientific Meeting on Electrical-Electronics Biomedical Engineering and Computer Science (EBBT 2019), İstanbul, Turkey, 24 - 26 April 2019, vol.1
- XLII. **Pre-trained Classification of Hyperspectral Images Using Denoising Autoencoders and Joint Features**  
Kanalıcı E., BİLGİN G.  
Proceedings of the 2019 2nd International Conference on Geoinformatics and Data Analysis (ICGDA 2019), Prague, Czech Republic, 15 - 17 March 2019, pp.66-70
- XLIII. **Automatic Nuclei Detection in Histopathological Images based on Convolutional Neural Networks**  
Abed Alah R. S., BİLGİN G., ALBAYRAK A.  
Proceedings of the 12th International Joint Conference on Biomedical Engineering Systems and Technologies (Biosignals 2019), Prague, Czech Republic, 22 - 24 February 2019, vol.4, pp.193-200
- XLIV. **Lenfoma Histopatolojik Görüntülerinin Uzamsal Özellik Tanımlayıcıları Temelinde Evrimsel Yapay Sinir Ağı ile Sınıflandırılması**  
ARPACI S. A., BİLGİN G.  
Elektrik, Elektronik ve Biyomedikal Mühendisliği Konferansı, ELECO'18, Bursa, Turkey, 29 November - 01 December 2018, pp.1-5
- XLV. **Histopatolojik Görüntülerde Kodlayıcı-Çözücü Tabanlı Derin Öğrenme Algoritması ile Hücresel Yapıların Bölütlenmesi**  
ALBAYRAK A., BİLGİN G.  
IEEE Tıp Teknolojileri Kongresi, TıpTekno'18, Gazi Magosa, Cyprus (Kktc), 8 - 10 November 2018, pp.218-221
- XLVI. **Histopatolojik Görüntülerde Kodlayıcı-Çözücü Tabanlı Derin Öğrenme Algoritması ile Hücresel Yapıların Bölütlenmesi; Segmentation of Cellular Structures with Encoder-Decoder Based Deep Learning Algorithm in Histopathological Images**  
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## Supported Projects

BİLGİN G., TUBITAK Project, Histopatolojik Görüntülerde Farklı Dokuların Sınıflandırılması ve Hücre Bölütlenmesi, 2018 - Continues

BALIK ŞANLI F., MADENOĞLU S., ÜSTÜNER M., BİLGİN G., ESETLİLİ M. T., ABDIKAN S., Project Supported by Higher Education Institutions, POLARİMETRİK AYRIŞTIRMA YÖNTEMLERİNİN TARIMSAL ÜRÜN DESENİ TESPİTİNDEKİ ETKİSİNİN ARAŞTIRILMASI, 2017 - 2020

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BİLGİN G., Project Supported by Higher Education Institutions, Yüksek Boyutlu İşaret ve Görüntülerin Grafik İşlem Birimleri ile Paralel Hesaplama Sistemi, 2014 - 2016

BİLGİN G., Project Supported by Other Official Institutions, İleri Görünteleme Teknolojileri (İGT) - TUYGUN Projesi-Hedef Tespiti Algoritma Geliştirilmesi, 2014 - 2015  
BİLGİN G., Project Supported by Higher Education Institutions, Yıldız Teknik Üniversitesi GPS-tabanlı Servis Takip Sistemi (YTU-GPS-STS), 2013 - 2014  
BİLGİN G., TÜBİTAK Project, Makine Öğrenme Algoritmalarını Kullanarak Mobil İstemcilerde Kullanıcı Etkileşimini Artıracak Mobil Uygulama Altyapısının Geliştirilmesi, 2012 - 2013  
BİLGİN G., Other International Funding Programs, Yeni Bakteri Patojenlerinin Etiketsiz Tespiti İçin Makine Öğrenmesi Yaklaşımı, 2010 - 2012

## Scientific Refereeing

SIGNAL IMAGE AND VIDEO PROCESSING, Journal Indexed in SCI-E, July 2020  
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IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, SCI Journal, October 2019  
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Turkish Journal of Electrical Engineering and Computer Sciences, SCI Journal, October 2017  
IEEE Transactions on Geoscience and Remote Sensing, SCI Journal, July 2017  
Journal of Applied remote Sensing, SCI Journal, May 2017  
IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, SCI Journal, April 2017  
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Artificial Intelligence Communications, SCI Journal, January 2017  
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International Journal of Remote Sensing, SCI Journal, May 2016  
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European Journal of Remote Sensing, SCI Journal, February 2016  
IEEE Transactions on Biomedical Engineering, SCI Journal, February 2015  
Digital Signal Processing, SCI Journal, August 2014  
Remote Sensing of Environment, SCI Journal, September 2011  
Journal of Pathology Informatics, SCI Journal, March 2011

## Scientific Research / Working Group Memberships

Signal And Image Processing Laboratory (Simplab), Yıldız Technical University, Türkiye,  
<http://www.simplab.yildiz.edu.tr/>, 2013 - Continues

## Metrics



Publication: 158

Citation (WoS): 396

Citation (Scopus): 960

H-Index (WoS): 10

H-Index (Scopus): 15

## **Awards**

BİLGİN G., SIMPLAB has received an NVIDIA Titan V GPU as an award of NVIDIA's Academic Programs Team., NVIDIA GPU Grant Award 2019, March 2019

BİLGİN G., (Best Paper Award) Comparative Analysis of Codeword Representation by Clustering Methods for the Classification of Histological Tissue Types, International Conference of Computer Vision (ICMV'2015), SCIEI Science and Engineering Institute, November 2015

BİLGİN G., MITOSIS-ATYPIA-14 Competition of Mitosis Detection yarışmasında 'Histopatolojik Görüntülerde Mitoz Belirleme' dalında elde edilen 3.lük derecesi. (<http://mitos-atypia-14.grand-challenge.org/>), ICPR 2014 Conference and IPAL Laboratory CNRS, University Joseph Fourier, Grenoble 1, Sorbonne Universités UPMC, A\*STAR/I2R Singapore, August 2014

## **Non Academic Experience**

Milsoft A.Ş.

Indiana University-Purdue University Indianapolis

Beko Elektronik A.Ş.

Adam Elektronik ArGe Ltd. Şti.