

Asst. Prof. ERCÜMENT YILMAZ

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: Z-2420-2019

ScopusID: 56246475500

Yoksis Researcher ID: 200010

Biography

Ercüment YILMAZ received his **M.Sc.** and **Ph.D.** degrees from **Computer Engineering Department** at **Karadeniz Technical University** in June'18. In January'02, he joined **Karadeniz Technical University Department of Informatics** as academic staff member. As a senior lecturer he currently teaches lectures on **Information Technologies**.

He was a **post-doctoral fellow** at **LISITE (Laboratoire D'Informatique, Signal, Image, Telecommunication et Electronique) de L'ISEP, ISEP, Paris/France** between dates September 2019 - September 2020.

During his graduate studies, he developed algorithms for segmentation and classification of dental apical lesions on 3D images obtained via cone beam computed tomography devices.

His current research includes the development of noise reduction, semiautomatic segmentation and classification algorithms using **deep learning methods** to increase non-invasive diagnosis of different lesion types (skin lesions, dental lesions and gastrointestinal lesions) detected in medical images (**dermoscopy, 3D CBCT and gastroscopy** images)

Ercüment Yılmaz is also the founder of **Yılmaz Bilişim**, which is located in **Trabzon Technology Development Zone**. **Yılmaz Bilişim** is a R & D company that has been established with the aim of developing "**Road Traffic Simulation Software**" product.

Education Information

Post Doctorate, Institut Supérieur d'Electronique du Paris, Laboratoire D'Informatique, Signal, Image, Télécommunication Et Électronique, Signal, Image And Telecommunications, France 2019 - 2020

Doctorate, Karadeniz Technical University, -, Bilgisayar Mühendisliği, Turkey 2006 - 2018

Postgraduate, Karadeniz Technical University, -, Bilgisayar Mühendisliği, Turkey 2002 - 2006

Undergraduate, Karadeniz Technical University, Fen Edebiyat Fakültesi, İstatistik Ve Bilgisayar Bilimleri Bölümü, Turkey 1997 - 2001

Foreign Languages

English, C2 Mastery

Certificates, Courses and Trainings

Education Management and Planning, Erasmus Personel Eğitim Alma Hareketliliği, Institut Supérieur d'Electronique du Paris (ISEP), 2019

Other, Üniversite Sanayi İşbirliği Uzmanı Rehberlik Eğitimi, Gazi Teknoloji Transfer Ofisi, 2015

Education Management and Planning, Fen Bilimlerinde Araştırma Projesi Hazırlama Eğitimi, TÜBİTAK & Karadeniz Teknik Üniversitesi, 2014

Dissertations

Doctorate, Semi Automatic Segmentation and Classification of Periapical Cyst and Keratocystic Odontogenic Tumor Lesions, Karadeniz Technical University, 2018

Postgraduate, Highway Traffic Simulation, Karadeniz Technical University, 2006

Research Areas

Computer Sciences, bioinformatics, Database and Data Structures, Database Systems, Artificial Intelligence, Computer Learning and Pattern Recognition, Software, Software Engineering, Biomedical Engineering, Biomedical Image Processing, Transportation Engineering, Statistics, Statistical Analysis and Applications, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Karadeniz Technical University, Fen Fakültesi, Yazılım Geliştirme, 2024 - Continues

Lecturer PhD, Karadeniz Technical University, Trabzon Meslek Yüksekokulu, Bilgisayar Teknolojileri, 2018 - 2024

Lecturer, Karadeniz Technical University, Rektörlük, Enformatik Bölümü, 2002 - 2018

Academic and Administrative Experience

Deputy Head of Department, Karadeniz Technical University, Fen Fakültesi, Yazılım Geliştirme, 2024 - Continues

Assistant Director of Vocational School, Karadeniz Technical University, Trabzon Meslek Yüksekokulu, 2020 - 2024

Deputy Head of Department, Karadeniz Technical University, Trabzon Meslek Yüksekokulu, Bilgisayar Teknolojileri Bölümü, 2019 - 2024

Karadeniz Technical University, Sürekli Eğitim Merkezi, 2009 - 2012

Karadeniz Technical University, Enformatik Bölümü, 2009 - 2012

Courses

Introduction to Artificial Intelligence, Associate Degree, 2024 - 2025

Basics of Software Development, Undergraduate, 2024 - 2025

Image Processing, Associate Degree, 2024 - 2025

Computer Aided Drug Design, Undergraduate, 2023 - 2024

Object Oriented Programming - 2, Associate Degree, 2020 - 2021

Visual Programming - 3, Associate Degree, 2020 - 2021

Object Oriented Programming - 1, Associate Degree, 2020 - 2021

Visual Programming - 2, Associate Degree, 2020 - 2021
Veritabanı - 2, Associate Degree, 2018 - 2019
Web Tasarımının Temelleri, Associate Degree, 2017 - 2018
Veri Tabanı - 1, Associate Degree, 2017 - 2018
Mesleki İngilizce, Associate Degree, 2018 - 2019
Ağ Temelleri, Associate Degree, 2018 - 2019
İnternet Programcılığı 1, Associate Degree, 2017 - 2018
Grafik Animasyon 1, Associate Degree, 2017 - 2018
Temel Bilgi Teknolojileri Kullanımı, Undergraduate, 2013 - 2014
Temel Bilgisayar - 2, Undergraduate, 2012 - 2013
Bilgisayar Uygulamaları, Undergraduate, 2012 - 2013
Veri Tabanı - 2 (UZEM), Associate Degree, 2012 - 2013
Veri Tabanı - 1 (UZEM), Associate Degree, 2012 - 2013
Temel Bilgisayar, Undergraduate, 2008 - 2009
Veri Yapıları, Undergraduate, 2006 - 2007
Veri Tabanı Yönetim Sistemleri, Undergraduate, 2006 - 2007

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **A toolbox of machine learning software to support microbiome analysis**
Marcos-Zambrano L. J., Lopez-Molina V. M., Bakir-Gungor B., Frohme M., Karaduzovic-Hadziabdic K., Klammsteiner T., Ibrahim E., Lahti L., Loncar-Turukalo T., Dhamo X., et al.
FRONTIERS IN MICROBIOLOGY, vol.14, 2023 (SCI-Expanded)
- II. **Statistical and Machine Learning Techniques in Human Microbiome Studies: Contemporary Challenges and Solutions**
Moreno-Indias I., Lahti L., Nedyalkova M., Elbere I., Roshchupkin G., Adilovic M., AYDEMİR Ö., Bakir-Gungor B., Santa Pau E. C., D'Elia D., et al.
FRONTIERS IN MICROBIOLOGY, vol.12, 2021 (SCI-Expanded)
- III. **Computer-aided diagnosis of periapical cyst and keratocystic odontogenic tumor on cone beam computed tomography**
Yilmaz E., Kayikcioglu T., Kayipmaz S.
COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE, vol.146, pp.91-100, 2017 (SCI-Expanded)

Articles Published in Other Journals

- I. **SARS-CoV-2 Ana Proteaz Enzimine Yönelik Antiviral Bileşiklerin Bilgisayar Destekli İlaç Tasarımı Yöntemleri ile Değerlendirilmesi**
TATAR YILMAZ G., YILMAZ E.
European Journal of Science and Technology, no.32, pp.1043-1047, 2021 (Peer-Reviewed Journal)
- II. **A modified version of GoogLeNet for melanoma diagnosis**
YILMAZ E., TROCAN M.
Journal of Information and Telecommunication, vol.5, pp.1-11, 2021 (ESCI)

Books & Book Chapters

- I. **Microsoft Excel 2010**
YILMAZ E., SÖNMEZ A., SÖNMEZ S., KAYA Y., BİNGÖL Ö., GÜNER A., KOCABAŞ A., AKAY A., GÜRCAN F., DOĞU A. H.
in: Temel Bilgi Teknolojileri, BİNGÖL Özkan, Editor, Derya Kitabevi, Trabzon, pp.158-192, 2011

II. Bölüm 3 Word

Yılmaz E., Doğu A. H., Kaya Y., Gürçan F., Sönmez S., Oğuz Y., Bingöl Ö., Kocabaş A., Akay A., Güner A., et al.
in: Temel Bilgisayar, DOĞU Ali Haydar, Editor, Derya Kitabevi, Trabzon, pp.131-159, 2007

III. Grafikler

Yılmaz E.

in: Uygulamalı İleri Excel 2003, MISIR Nejat, Editor, Derya Kitabevi, Trabzon, pp.206-251, 2007

IV. Microsoft Word

YILMAZ E., DOĞU A. H.

in: TEMEL BİLGİSAYAR, Doğu A.H., Editor, Şahinkaya Matbaacılık, İstanbul, pp.102-119, 2005

Refereed Congress / Symposium Publications in Proceedings

- I. **A modified EfficientNet Model for the classification of Toxoplasmosis disease on OCT Images**
YILMAZ E.
2023 Innovations in Intelligent Systems and Applications Conference (ASYU), Sivas, Turkey, 11 - 13 October 2023
- II. **Comparison of Deep Learning Methods for Classification of Clinical Urine Test Images**
Yılmaz E.
14. Tıp Bilişimi Kongresi, İzmir, Turkey, 16 - 18 March 2023, pp.76-79
- III. **Melanoma Detection Using Deep Learning**
Favole F., Trocan M., Yılmaz E.
12th International Conference on Computational Collective Intelligence, Dha-Nang, Vietnam, 30 November - 03 December 2020, vol.12496, pp.816-824
- IV. **Benign and Malignant Skin Lesion Classification Comparison for Three Deep-Learning Architectures**
Yılmaz E., Trocan M.
12th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2020, Phuket, Thailand, 23 - 26 March 2020, pp.514-524
- V. **Semi-Automatic Segmentation of Apical Lesions in Cone Beam Computed Tomography Images**
YILMAZ E., KAYIKÇIOĞLU T., KAYIPMAZ S.
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- VI. **Noise Removal of CBCT Images Using an Adaptive Anisotropic Diffusion Filter**
YILMAZ E., KAYIKÇIOĞLU T., KAYIPMAZ S.
40th International Conference on Telecommunications and Signal Processing (TSP), Barcelona, Spain, 5 - 07 July 2017, pp.650-653
- VII. **Experimental Comparison of Different Noise Reduction Techniques on Cone Beam Computed Tomography Images**
YILMAZ E., KAYIKÇIOĞLU T., KAYIPMAZ S.
22nd IEEE Signal Processing and Communications Applications Conference (SIU), Trabzon, Turkey, 23 - 25 April 2014, pp.2086-2089
- VIII. **Konik Işınlı Bilgisayarlı Tomografi Görüntülerindeki Çene Patolojilerinin Rasgele Yürüyüşle Belirlenmesi**
YILMAZ E., KAYIKÇIOĞLU T., KAYIPMAZ S., SEZGİN Ö. S.
ULUSLARARASI 8. İSTATİSTİK KONGRESİ, Antalya, Turkey, 27 - 30 October 2013, pp.272-273
- IX. **Temel Bilişim Eğitiminin Yükseköğretimdeki Yeri: 2005-2012 Analizi**
YILMAZ E., DOĞU A. H.
AKADEMİK BİLİŞİM 2012, Uşak, Turkey, 1 - 03 February 2012, pp.65-70
- X. **Üniversitelerde Temel Bilişim Eğitimi Nereye Gidiyor?: 2005-2011 Analizi**
YILMAZ E., DOĞU A. H.
AKADEMİK BİLİŞİM 2011, Malatya, Turkey, 2 - 04 February 2011, pp.659-664
- XI. **Orta Öğretimden Üniversiteye Gelen Öğrencilerin Temel Bilgisayar Bilgilerinin il ve Bölge Bazında İncelenmesi: Karadeniz Teknik Üniversitesi Uygulaması**

DOĞU A. H., YILMAZ E.

AKADEMİK BİLİŞİM 2010, Muğla, Turkey, 10 - 12 February 2010, vol.1, pp.91-96

XII. Orta Ölçekli Trafik Ağlarının Geliştirilen Bir Yazılım İle Simülasyonu ve Analizi

YILMAZ E., KÖSE C.

Akademik Bilişim 2008, Çanakkale, Turkey, 30 January - 01 February 2008, pp.411-418

XIII. Dört Kavşağa Sahip Bir Karayolu Bölümünün Bilgisayar Ortamında Simülasyonu

YILMAZ E., KÖSE C.

12. ELEKTRİK, ELEKTRONİK, BİLGİSAYAR, BİYOMEDİKAL MÜHENDİSLİĞİ ULUSAL KONGRESİ ve FUARI, Eskişehir, Turkey, 14 - 18 November 2007, pp.299-300

XIV. Akademisyen Ders Sayfaları Hazırlama Modülü

YILMAZ E.

AKADEMİK BİLİŞİM 2005, Gaziantep, Turkey, 2 - 04 February 2005, pp.144

XV. Kişisel Sayfa ve Ders Sayfası Hazırlama Sistemi

YILMAZ E., Özyurt T., Kuş R.

AKADEMİK BİLİŞİM 2004, Trabzon, Turkey, 11 - 13 February 2004, pp.22

Supported Projects

ÖZTEKİN KULOĞLU E., AKYAZ ALAÇAM S., AYGÜN Ö., NAS E., YILMAZ E., ÜÇÜNCÜ F., DİNCER N., AYMAZ Ş., AKKOYUN F., Project Supported by Higher Education Institutions, Eğitimi ve Araştırmayı Desteklemek için Bilgisayar Teknolojileriyle Entegre Eklemeli İmalat Laboratuvarının Kurulması, 2023 - Continues

TATAR YILMAZ G., BEKTAŞ Ö., YILMAZ E., Project Supported by Higher Education Institutions, Bilgisayar Destekli İlaç Tasarımı Yöntemleri ile Yeni BCR-ABL Tirozin Kinaz İnhibitörlerinin Geliştirilmesi, 2022 - Continues

Yılmaz E., Aydemir Ö., Akyaz Alaçam S., Köse S., Technopark, Motorlu Araç Arıza Tespit Sistemi (MATS), 2019 - 2022

Yılmaz E., Trocan M., TUBITAK Project, Detection and Classification of Skin Lesions Observed in Dermoscopy Images Using Deep Learning Models, 2019 - 2020

ŞEVİK U., BERBER T., TÜRKİYILMAZ S., YILMAZ E., KARAKULLUKÇU E., YEGİNOĞLU Y., Project Supported by Higher Education Institutions, Yanık Hastalarının 3-Boyutlu Modellenmesi, 2016 - 2020

BELDÜZ A. O., HACISALİHOĞLU H., SAĞLAM S., YILMAZ E., YILDIZ O., Project Supported by Higher Education Institutions, Karadeniz Teknik Üniversitesinde Girişimcilik ve Yenilikçilik Potansiyeli ile Üniversite-Sanayi İşbirliği Kapasitesinin Arttırılması İmkanlarının Araştırılması, 2016 - 2017

BERBER T., ŞEVİK U., KÖSE C., YILMAZ E., TUBITAK Project, Şehir İçi ve Şehirlerarası Trafik Şebekelerinin Bilgisayar Ortamında Modellenmesi, Simülasyonu ve Analizini Gerçekleştirecek Yerli Bir Yazılımın Üretilmesi, 2014 - 2015

DOĞU A. H., YILMAZ E., EU Framework Program Project, AB YOLUNDAKİ TÜRKİYE'YE BİLİŞİM GENÇLİĞİNİN KATKISI, 2010 - 2011

Patent

Yılmaz E., Şevik U., Berber T., Synthetic Population Synthesis Method, Patent, CHAPTER B Implementation of Operations; Transport, The Invention Registration Number: TR 2015 07903 B , Standard Registration, 2017

Yılmaz E., Berber T., Şevik U., Mechanism to Automatically Obtain Road Facilities and Connections from a Map Provider, Patent, CHAPTER B Implementation of Operations; Transport, The Invention Registration Number: TR 2015 07427 B , Standard Registration, 2017

Scientific Refereeing

BMC ORAL HEALTH, SCI Journal, August 2024

BMC MEDICAL INFORMATICS AND DECISION MAKING, SCI Journal, August 2024

SCIENTIFIC REPORTS, SCI Journal, March 2024
PATTERN RECOGNITION, SCI Journal, October 2023
EXPERT SYSTEMS WITH APPLICATIONS, SCI Journal, May 2023
PHYSICS IN MEDICINE AND BIOLOGY, SCI Journal, September 2021
COMPUTERS IN BIOLOGY AND MEDICINE, SCI Journal, June 2020
IEEE ACCESS, SCI Journal, May 2020
Signal, Image and Video Processing, SCI Journal, April 2020
Biomedical Physics & Engineering Express, SCI Journal, November 2019
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, SCI Journal, January 2017

Scientific Research / Working Group Memberships

Ca22103 - A Comprehensive Network Against Brain Cancer, The European Cooperation in Science and Technology (COST), Belgium, <https://www.cost.eu/actions/CA22103/>, 2024 - Continues
Ca22125 - Precision Medicine In Biliary Tract Cancer (Precision-Btc-Network), The European Cooperation in Science and Technology (COST), Belgium, <https://www.cost.eu/actions/CA22125/>, 2023 - Continues
Ca21160 - Non-Globular Proteins In The Era Of Machine Learning (Ml4ngp), The European Cooperation in Science and Technology (COST), Belgium, <https://www.cost.eu/actions/CA21160/>, 2022 - Continues
Ca21169 - Information, Coding, And Biological Function: The Dynamics Of Life (DynaLife), The European Cooperation in Science and Technology (COST), Belgium, <https://www.cost.eu/actions/CA21169/>, 2022 - Continues
Ca20124, Maximising Impact Of Multidisciplinary Research In Early Diagnosis Of Neonatal Brain Injury, The European Cooperation in Science and Technology (COST), Belgium, <https://www.cost.eu/actions/CA20124/>, 2022 - Continues
Ca18131 - Statistical And Machine Learning Techniques In Human Microbiome Studies, The European Cooperation in Science and Technology (COST), Belgium, <https://www.cost.eu/actions/CA18131/>, 2020 - 2023
Ca17137 - A Network For Gravitational Waves, Geophysics And Machine Learning, The European Cooperation in Science and Technology (COST), Belgium, <https://www.cost.eu/actions/CA17137/>, 2020 - 2023
Ca18106 - The Neural Architecture Of Consciousness, The European Cooperation in Science and Technology (COST), Belgium, <https://www.cost.eu/actions/CA18106/>, 2020 - 2023
ENFORMATİK ÇALIŞTAYI, Türkiye Bilişim Vakfı, Turkey, <http://enformatikcalistayi.ktu.edu.tr>, 2008 - 2011

Metrics

Publication: 29
Citation (WoS): 141
Citation (Scopus): 170
H-Index (WoS): 5
H-Index (Scopus): 6

Congress and Symposium Activities

Prof.Dr. Mustafa Karaman Biyomedikal Görüntü İşleme Çalıştayı, Invited Speaker, İstanbul, Turkey, 2018
TÜRKİYE İNOVASYON HAFTASI 2016, Attendee, İstanbul, Turkey, 2016
4. TEKNOLOJİ GELİŞTİRME BÖLGELERİ ZİRVESİ, Attendee, Ankara, Turkey, 2016
TÜRKİYE İNOVASYON HAFTASI 2015, Attendee, İstanbul, Turkey, 2015
3. TEKNOLOJİ GELİŞTİRME BÖLGELERİ ZİRVESİ, Attendee, ANKARA, Turkey, 2015
4. TET AR-GE PROJE PAZARI, Attendee, İstanbul, Turkey, 2015
TECHANKARA PROJE PAZARI, Attendee, Ankara, Turkey, 2014
2. TEKNOLOJİ GELİŞTİRME BÖLGELERİ ZİRVESİ, Attendee, Ankara, Turkey, 2014

SİGNAL PROCESSİNG AND COMMUNİCATIONS APPLİCATIONS CONFERENCE (SIU), 2014 22ND, Attendee, Trabzon, Turkey, 2014
ULUSLARARASI 8. İSTATİSTİK KONGRESİ, Attendee, Antalya, Turkey, 2013
AKADEMİK BİLİŞİM 2012, Attendee, Uşak, Turkey, 2012
BİLİŞİM KURULTAYI, Attendee, Ankara, Turkey, 2011
AKADEMİK BİLİŞİM 2011, Attendee, Malatya, Turkey, 2011
AKADEMİK BİLİŞİM 2010, Attendee, Muğla, Turkey, 2010
AKADEMİK BİLİŞİM 2008, Attendee, Çanakkale, Turkey, 2008
12. ELEKTRİK, ELEKTRONİK, BİLGİSAYAR, BİYOMEDİKAL MÜHENDİSLİĞİ ULUSAL KONGRESİ ve FUARI, Attendee, Eskişehir, Turkey, 2007
AKADEMİK BİLİŞİM 2007, Attendee, Kütahya, Turkey, 2007
AKADEMİK BİLİŞİM 2005, Attendee, Gaziantep, Turkey, 2005
AKADEMİK BİLİŞİM 2004, Attendee, Trabzon, Turkey, 2004
AKADEMİK BİLİŞİM 2003, Attendee, Adana, Turkey, 2003

Invited Talks

Artificial Intelligence Applications in Dentistry, Seminar, Alanya Alaaddin Keykubat Üniversitesi, Turkey, June 2020
Semi-automatic Segmentation and Classification of Dental Periapical Lesions, Workshop, İstanbul Teknik Üniversitesi, Turkey, September 2018

Scholarships

2219-Yurt Dışı Doktora Sonrası Araştırma Bursu, TÜBİTAK, 2019 - 2020

Visual Activities

YILMAZ E., Radio Program, 2015 - 2015
YILMAZ E., TV Show, 2005 - 2005

Non Academic Experience

Business Establishment Private, Yılmaz Bilişim R&D Consultancy Software Engineering and Services Trade Limited Company