

Lect. PhD Harun Smbl

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: AAB-8440-2021

ScopusID: 57190126662

Yoksis Researcher ID: 58672

Education Information

Undergraduate, Sivas Cumhuriyet University, Mhendislik Fakltesi, Elektrik-Elektronik Mhendislięi Blm, Turkey
2017 - 2018

Doctorate, Karabuk University, Fen Bilimleri Enstits, Elektrik-Elektronik Mhendislięi (Dr), Turkey 2012 - 2017

Postgraduate, Selcuk University, Fen Bilimleri Enstits, Elektrik-Elektronik Mhendislięi (YI) (Tezli), Turkey 2008 - 2011

Undergraduate, Selcuk University, Teknik Eęitim Fakltesi, Elektronik Ve Bilgisayar Eęitimi Blm, Turkey 2003 - 2008

Foreign Languages

English, B1 Intermediate

Dissertations

Doctorate, Uyku apnesi ve KOAH hastalıkları iin tanı yntemi geliřtirilmesi, Karabuk University, Fen Bilimleri Enstits,
Elektrik-Elektronik Mhendislięi (Dr), 2017

Postgraduate, retim ařamasında gıda maddelerine karıřan demir paracıklarının belirlenmesi, Selcuk University, Fen
Bilimleri Enstits, Elektrik-Elektronik Mhendislięi (YI) (Tezli), 2011

Research Areas

Biomedical Engineering, Electrical and Electronics Engineering

Academic Titles / Tasks

Lecturer PhD, Ondokuz Mayıs University, Yeřilyurt Demir elik Meslek Yksekokulu, Elektronik Ve Otomasyon Blm,
2012 - Continues

Research Assistant, Gumushane University, Mhendislik Ve Doęa Bilimleri Fakltesi, Elektrik-Elektronik Mhendislięi
Blm, 2010 - 2011

Courses

ELEKTRONİK GÜVENLİK SİSTEMLERİ, Associate Degree, 2016 - 2017, 2012 - 2013
KONTROL SİSTEMLERİ, Associate Degree, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013
BİLGİ VE İLETİŞİM TEKNOLOJİSİ, Associate Degree, 2016 - 2017
MESLEKİ YABANCI DİL, Associate Degree, 2016 - 2017
GÜÇ ELEKTRONİĞİ, Associate Degree, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013
İLERİ MİKRODENETLEYİCİLER, Associate Degree, 2015 - 2016, 2014 - 2015, 2013 - 2014
MİKRODENETLEYİCİLER, Associate Degree, 2015 - 2016, 2014 - 2015, 2013 - 2014
BİLGİSAYAR DESTEKLİ DEVRE TASARIMI, Associate Degree, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013
SCADA SİSTEMLERİ, Associate Degree, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013
ENDÜSTRİYEL AĞLAR , Associate Degree, 2012 - 2013
İLETİŞİM, Associate Degree, 2012 - 2013
SCADA SİSTEMLERİ, Associate Degree, 2011 - 2012
BİLGİSAYAR DESTEKLİ DEVRE TASARIMI , Associate Degree, 2011 - 2012
ENDÜSTRİYEL AĞLAR , Associate Degree, 2011 - 2012

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Design of a fuzzy input expert system visual information interface for classification of apnea and hypopnea**
Sümbül H., Yuzer A. H.
MULTIMEDIA TOOLS AND APPLICATIONS, vol.83, no.7, pp.21133-21152, 2024 (SCI-Expanded)
- II. **A Novel Portable Real-Time Low-Cost Sleep Apnea Monitoring System based on the Global System for Mobile Communications (GSM) Network**
Sümbül H., Yuzer A. H., Sekeroglu K.
MEDICAL & BIOLOGICAL ENGINEERING & COMPUTING, vol.60, no.2, pp.619-632, 2022 (SCI-Expanded)
- III. **A different sleep apnea classification system with neural network based on the acceleration signals**
Yuzer A. H., Sümbül H., Nour M., POLAT K.
APPLIED ACOUSTICS, vol.163, 2020 (SCI-Expanded)
- IV. **A Novel Wearable Real-Time Sleep Apnea Detection System Based on the Acceleration Sensor**
Yuzer A. H., Sumbul H., Polat K.
IRBM, no.1, pp.39-47, 2020 (SCI-Expanded)

Articles Published in Other Journals

- I. **Positional sleep apnea detection and IoT application by using Deneyap card**
sümbül h.
Gümüşhane Üniversitesi Fen Bilimleri Dergisi, vol.13, no.4, pp.1033-1045, 2023 (Peer-Reviewed Journal)
- II. **CONCEPTUAL DESIGN OF THE COMBINED PATIENT BED FOR INTENSIVE CARE, BURN THERAPY AND PHYSICAL THERAPY**
SÜMBÜL H., BÖĞREK A., TUNÇER A.
Makina Tasarım ve İmalat Dergisi, vol.21, no.1, pp.12-21, 2023 (Peer-Reviewed Journal)
- III. **Design and implementation of a spirometric measurement system that can measure COPD parameters**
Sumbuli H., Yuzer A. H.
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSİTESİ MUHENDİSLİK BİLİMLERİ DERGİSİ, no.5, pp.661-667, 2022 (ESCI)
- IV. **A Novel Engine Vibration Measurement System based on the MEMS Sensor**

Böğrek A., Sümbül H.

International Journal of Automotive Science and Technology, vol.6, no.4, pp.357-363, 2022 (Scopus)

- V. **Conceptual Design and Simulation of Railway Machinist Excitation System for Transportation Safety**
SÜMBÜL H., BÖĞREK A., TUNÇER A.

Demiryolu Mühendisliği, vol.0, no.14, pp.1-13, 2021 (Peer-Reviewed Journal)

- VI. **Robotik Kodlama Eğitim Setinin Tasarlanması ve Oluşturulması**

SÜMBÜL H., ÇOLAK H.

Bilge International Journal of Science and Technology Research, vol.4, no.2, pp.103-109, 2020 (Peer-Reviewed Journal)

- VII. **Development of Driver Analysis System to Improve Driving Comfort and to Reduce Mechanical Abrasion in Vehicles**

BÖĞREK A., SÜMBÜL H.

The Journal of Technical Science, vol.9, no.3, pp.9-14, 2019 (Peer-Reviewed Journal)

- VIII. **ESTIMATING THE VALUE OF THE VOLUME FROM ACCELERATION ON THE DIAPHRAGM MOVEMENTS DURING BREATHING**

Sümbül H., Yuzer A. H.

JOURNAL OF ENGINEERING SCIENCE AND TECHNOLOGY, vol.13, no.5, pp.1205-1221, 2018 (ESCI)

- IX. **Development of The Road Analysis System to Provide the Fuel Efficiency Awareness in the Vehicles**
SÜMBÜL H., BÖĞREK A.

Bilge International Journal of Science and Technology Research, vol.1, no.1, pp.6-9, 2017 (Peer-Reviewed Journal)

- X. **Development of Diagnostic Device for COPD: A MEMS Based Approach**

Sümbül H., Yuzer A. H.

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE AND NETWORK SECURITY, vol.17, no.7, pp.196-203, 2017 (ESCI)

- XI. **Fuzzy Logic-Based Automatic Door Control System**

SÜMBÜL H.

Carpathian Journal of Electrical Engineering, vol.11, no.1, pp.7-15, 2017 (Peer-Reviewed Journal)

- XII. **Effect of High-Heeled Shoes on Gait: A Micro-Electro-Mechanical-Systems Based Approach**

SÜMBÜL H., Özyurt O.

World Academy of Science, Engineering and Technology, International Science Index 124, International Journal of Electrical, Computer, Energetic, Electronic and Communication Engineering, vol.11, no.4, pp.424-429, 2017 (Peer-Reviewed Journal)

- XIII. **3D Monitoring of Lying Position for Patients with Positional Sleep Apnea Syndrome**

SÜMBÜL H., YÜZER A. H.

Journal of New Results in Science, vol.12, no.2016, pp.59-70, 2016 (Peer-Reviewed Journal)

- XIV. **The Control of Treadle Sewing Machines with Wristbands Control System for Persons with Walking Disabled**

Sümbül H., Yakut Y.

JOURNAL OF POLYTECHNIC-POLITEKNİK DERGİSİ, vol.19, no.3, pp.245-249, 2016 (ESCI)

- XV. **Yürüme Engelli Bireyler İçin Pedaldan Kumandalı Dikiş Makinelerinin Kumanda Bileklik Sistemi İle Kontrolü**

SÜMBÜL H., YAKUT Y.

JOURNAL OF POLYTECHNIC-POLITEKNİK DERGİSİ, vol.19, no.3, pp.245-249, 2016 (Peer-Reviewed Journal)

- XVI. **The Control of Treadle Sewing Machines with Wristbands Control System for Persons with Walking Disabled**

SÜMBÜL H., Yakut Y.

Politeknik Dergisi, vol.19, no.3, pp.245-249, 2016 (Peer-Reviewed Journal)

- XVII. **Mikrodenetleyici Kontrollü Yeni Bir Algılayıcı Tasarımı**

SÜMBÜL H.

NWSA Academic Journals, vol.6, no.2, pp.672-680, 2011 (Peer-Reviewed Journal)

- XVIII. **Designing An Expert System For Detection Of Tuberculosis Disease With Logic Simplification Method**

Books & Book Chapters

- I. **Deep Network Model to Predict Lung Vital Capacity and Regression Analysis using OLS Method**
Sümbül H.
in: Decision Science - Recent Advances and Applications, Dr. Tien M. Nguyen, Taufiq Choudhry, Editor, IntechOpen, London, pp.1-8, 2023
- II. **A Novel Sleep Apnea Simulator Tool: A Mems Based Approach**
SÜMBÜL H.
in: NEW APPLICATIONS IN DIGITAL ENGINEERING, Prof. Dr. Ahmet FERTELLİ, Editor, İksad Yayınevi, Ankara, pp.47-68, 2023
- III. **A Logic Simplification Based on Expert System Application for TBC Diagnosis**
SÜMBÜL H., BAŞÇİFTÇİ F.
in: Wireless Mobile Communication and Healthcare, Part of the Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering book series (LNICST, volume 55), James C. Lin, Konstantina S. Nikita, Editor, Springer Berlin Heidelberg, pp.27-34, 2011

Refereed Congress / Symposium Publications in Proceedings

- I. **The Importance of STEM Education A Sample Study**
SÜMBÜL H.
Annual International Research Conference "Baitursynov Readings – 2020, Kostanay, KAZAKİSTAN, Kostanay, Kazakhstan, 05 May 2020
- II. **Introduction of Ondokuz Mayıs University**
SÜMBÜL H.
First International Staff Week, İrbid, Jordan, İrbid, Jordan, 05 April 2019
- III. **Development of Driver Analysis System to Improve Driving Comfort and to Reduce Mechanical Abrasion in Vehicles**
BÖĞREK A., SÜMBÜL H.
ISAS2018 Winter, Samsun, Turkey, 30 November - 02 December 2018
- IV. **Detection of Apnea Event with ANN Using Acceleration Data**
SÜMBÜL H., YÜZER A. H.
ISMSIT 2017 _ 1st International Symposium on Multidisciplinary Studies and Innovative Technologies, Tokat, Turkey, 2 - 04 November 2017, pp.219-221
- V. **Development of the Road Analysis System to Provide the Fuel Efficiency Awareness in the Vehicles**
SÜMBÜL H., BÖĞREK A.
ISMSIT 2017 _ 1st International Symposium on Multidisciplinary Studies and Innovative Technologies, Tokat, Turkey, 2 - 04 November 2017
- VI. **Design and Implementation of a Multi-Sensor Remote-Controlled Robot Car**
SÜMBÜL H., BÖĞREK A.
8th International Advanced Technologies Symposium (IATS'17), Elazığ, Turkey, 19 - 21 October 2017, pp.1555-1563
- VII. **The Control of an Electronically Locked Door New Methods**
SÜMBÜL H.
8th International Advanced Technologies Symposium (IATS'17), Elazığ, Turkey, 19 - 21 October 2017, pp.1662-1668
- VIII. **A Fuzzy Rule-Based Expert System to Estimate Lung Vital Capacity**

SÜMBÜL H., YÜZER A. H.

2nd International Conference on Computer Science and Engineering UBMK"17, Antalya, Turkey, 5 - 08 October 2017

- IX. **Remote Control of Treadle Sewing Machines with Wristbands for Individuals with Walking Disabled**
SÜMBÜL H., YAKUT Y.
1st International Mediterranean Science and Engineering Congress(IMSEC2016), Adana, Turkey, 26 - 28 October 2016, vol.1, pp.259-263
- X. **The Measurement of COPD Parameters VC RR and FVC by using Arduino Embedded System**
SÜMBÜL H., YÜZER A. H.
1st International Mediterranean Science and Engineering Congress(IMSEC2016), Adana, Turkey, 26 - 28 October 2016, vol.1, pp.640-645
- XI. **The control of air cooled engine s fan with electromagnetic clutch**
BAYDAN H. E., BÖĞREK A., SÜMBÜL H.
1st International Mediterranean Science and Engineering Congress(IMSEC2016), Adana, Turkey, 26 - 28 October 2016, vol.1, pp.506-512
- XII. **Determination of Acceleration Volume Relation using ANN**
SÜMBÜL H., YÜZER A. H.
International artificial intelligence and data processing symposium'xx16 (IDAP2016), Malatya, Turkey, 17 - 18 September 2016, pp.141-146
- XIII. **Mems Tabanlı Algılayıcı ile Hasta Yatış Pozisyonunun 3 Boyutlu İzlenmesi**
SÜMBÜL H., YÜZER A. H.
Elektrik-Elektronik ve Bilgisayar Sempozyumu (EEB2016), Tokat, Turkey, 11 - 13 May 2016, pp.287-290
- XIV. **Hava Soğutmalı Motorlarda Soğutucu Fanın Kontrolü: Elektromanyetik Kavrama Modeli**
BAYDAN H. E., BÖĞREK A., SÜMBÜL H.
EEB 2016 Elektrik-Elektronik ve Bilgisayar Sempozyumu, 11-13 Mayıs 2016, Tokat TÜRKİYE, Tokat, Turkey, 11 May 2016, pp.304-308
- XV. **Development of the Patient Alert System for Sleep Apnea Disease**
SÜMBÜL H., YÜZER A. H.
1st International Conference on Engeneering Technology and Applied Sciences(ICETAS-2016), AFYON, Turkey, 21 - 22 April 2016, pp.644-647
- XVI. **Investigating The Effect Of Shoe Heel Height On Gait Using Mems Based Sensor**
SÜMBÜL H., ÖZYURT O.
1st International Conference on Engeneering Technology and Applied Sciences-ICETAS-2016, Afyonkarahisar, Turkey, 21 - 22 April 2016, pp.227-229
- XVII. **Uyku Apnesi Tespit Cihazı**
SÜMBÜL H., YÜZER A. H.
Ondokuz Mayıs Üniversitesi,2. AR-GE Proje Pazarı, Samsun, Turkey, 05 October 2015
- XVIII. **Detection of Respiratory Signals According to Different Positions Using Acceleration Sensor**
Sumbul H., Yuzer A. H.
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.375-378
- XIX. **Measuring of Diaphragm Movements by using iMEMS Acceleration Sensor**
Sumbul H., Yuzer A. H.
9th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 26 - 28 November 2015, pp.166-170
- XX. **MEMs Tabanlı İvmeölçer Kullanılarak Araçlarda Yakıt Ekonomisi Farkındalığı Sağlayan Bir Sistemin Tasarımı**
SÜMBÜL H., BÖĞREK A.
Türkiye Otomotiv Sektöründe AR-GE Proje Pazarı, Proje Tanıtım Kataloğu, Bursa, Turkey, 17 - 18 May 2013
- XXI. **The control of an automatic door using fuzzy logic**
SÜMBÜL H., Coşkun A., TAŞDEMİR M.

2011 International Symposium on Innovations in Intelligent Systems and Applications, Istanbul, Turkey, 15 - 18 June 2011, pp.432-435

XXII. A Logic Simplification Based on Expert System Application for TBC Diagnosis

Sümbül H., Basciftci F.

2nd International ICST Conference on Wireless Mobile Communication and Healthcare, Ayia Napa, CYPRUS, 18 - 20 October 2010, pp.27-29

Supported Projects

Sümbül H., TUBITAK Project, Akıllı Priz, 2024 - 2025

Sümbül H., Project Supported by Higher Education Institutions, Deneyap kart kullanarak pozisyonel uyku apnesi tespiti ve IoT uygulaması, 2023 - 2023

Sümbül H., Tunçer A., Gülay C., Daşkale N. B., Günay S., Project Supported by Higher Education Institutions, Mobil Elektrokardiyografi Cihazı Tasarlanması ve Geliştirilmesi, 2023 - 2023

Sümbül H., Tunçer A., Gülay C., Daşkale N. B., Günay S., Project Supported by Higher Education Institutions, Elektro-pnömatik Aktuatör Tabanlı Yeni Bir Hava Akış Kontrol Sistemi Tasarımı, 2023 - 2023

Sümbül H., Böğrek A., Çakmak O., Aktaş M., Sivritepe Ş., Özcan G., Kök E., Project Supported by Higher Education Institutions, ROBOTAKSİ BİNEK OTONOM ARAÇ TASARIMI VE GERÇEKLEŞTİRİLMESİ, 2022 - 2022

Sümbül H., Project Supported by Higher Education Institutions, Sokak Hayvanlarını Beslemek için Yapay Zekâlı Bir Besleme Sistemi Geliştirilmesi, 2022 - 2022

Sümbül H., Project Supported by Higher Education Institutions, ULAP KONTRATLI ARGE PROJESİ, 2021 - 2021

Sümbül H., TUNÇER A., Tamokur M. A., Sarioğlu B., Yıldızlı K., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, Hassas Döküm Teknikeri Eğitim Atölyesi, 2020 - 2021

Sümbül H., KOSGEB İLERİ GİRİŞİMCİ DESTEK PROJESİ, 2020 - 2020

Sümbül H., Project Supported by Higher Education Institutions, KOAH Parametrelerini Ölçebilecek Spirometrik Ölçüm Sistemi Tasarımı, 2020 - 2020

Sümbül H., Çolak H., Project Supported by Higher Education Institutions, Robotik Kodlama Eğitim Setinin Tasarlanması ve Oluşturulması, 2019 - 2019

Sümbül H., Project Supported by Other Official Institutions, KOSGEB KOBİGEL PROJESİ (İmalat İçin Teknoloji, İhracat İçin Kapasite Artırma Projesi), 2018 - 2018

Sümbül H., Böğrek A., Project Supported by Higher Education Institutions, ARAÇLARDA YAKIT VERİMLİLİĞİ BİLİNCİ SAĞLAMAK İÇİN YOL ANALİZ SİSTEMİNİN GELİŞTİRİLMESİ, 2018 - 2018

Sümbül H., Project Supported by Higher Education Institutions, Uyku Apnesi ve KOAH Hastalıkları İçin Tanı Yöntemi Geliştirilmesi, 2015 - 2016

Sümbül H., Yakut Y., KOSGEB AR-GE VE İNOVASYON PROGRAMI - Proje No: 2014 / AGE - 07, 2014 - 2016

Sümbül H., Yakut Y., TEKNOGİRİŞİM (Yürüme Engelli Bireyler İçin Pedaldan Kumandalı Dikiş Makinelerinin Kumanda Bileklik Sistemi İle Kontrolü), 2014 - 2015

Endüstriyel Sıvıların Temizlenmesinde Kullanılan Elektromanyetik Filtrelerin Yapay Zeka Yöntemleri İle Adaptif Kontrolü ve Kit Tasarımı, 2009 - 2011

Scientific Refereeing

TUBITAK Project, 2209-A - Üniversite Öğrencileri Araştırma Projeleri Destekleme Programı, Ondokuz Mayıs University, Turkey, February 2023

TUBITAK Project, 2209-B - Sanayiye Yönelik Lisans Araştırma Projeleri Destekleme Programı, Ondokuz Mayıs University, Turkey, March 2020

TUBITAK Project, 2209-A - Üniversite Öğrencileri Araştırma Projeleri Destekleme Programı, Ondokuz Mayıs University, Turkey, June 2019

Congress and Symposium Activities

2. AR-GE Proje Pazarı, Attendee, Tokat, Turkey, 2023

Awards

Sümbül H., Ar-Ge Maraton Hızlandırma Programı kapsamında mansiyon ödülü, Yedaş, January 2023

Sümbül H., TÜBİTAK Uluslararası Bilimsel Yayınları Teşvik (UBYT) Ödülü, Tübitak, January 2023

Sümbül H., Orta Karadeniz Kariyer Fuarı (OKAF'22) 1.'lik Ödülü, Okaf'22, January 2022

Sümbül H., İnovasyon ve Tasarım Yarışmasında 1.'lik Ödülü, Ondokuz Mayıs Üniversitesi, January 2015