Assoc. Prof. UĞUR DEMİR

Personal Information

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Education Information

Doctorate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department of Mechatronics Engineering, Turkey 2015 - 2018
Postgraduate, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Department of Mechatronics, Turkey 2011 - 2013
Undergraduate, Marmara University, Faculty of Technical Education, Electronic and Computer Education, Turkey 2005 - 2009

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, Elektrikli araçlar için doğrudan tahrikli radiaxial akılı asenkron motor tasarımı ve uygulaması, Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, 2018

Research Areas

Electrical and Electronics Engineering, Electronic, Electronic Circuits, Power Electronics, Electrical Machine Theory and Design, Electric Motor Drivers, Mechanical Engineering, Machine Theory and Dynamics, System Dynamics and Control, Vehicle Systems Dynamics, Mechatronics, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Marmara University, Faculty of Technology, Mechatronic Engineering, 2022 - Continues
Assistant Professor, Marmara University, Faculty of Technology, Mechatronic Engineering, 2021 - 2022
Assistant Professor, Istanbul Gedik University, Faculty Of Engıneerıng, Department Of Mechatronıcs Engıneerıng, 2020 - 2021

Courses

İleri Otomatik Kontrol, Undergraduate, 2021 - 2022
Gömülü Sistemler ve Uygulamaları, Undergraduate, 2021 - 2022
İleri Robotik, Doctorate, 2021 - 2022
Otonom Robotlar, Undergraduate, 2021 - 2022
Bitirme Projesi, Undergraduate, 2021 - 2022, 2020 - 2021
Otonom Araçlar için Donanım ve Yazılım Mimarileri, Postgraduate, 2021 - 2022
Mühendislik Ekonomisi, Undergraduate, 2020 - 2021
Sistem Dinamiği ve Modelleme, Undergraduate, 2021 - 2022, 2020 - 2021
Lineer Cebir, Undergraduate, 2021 - 2022
Teknik Yabancı Dil II (İngilizce), Undergraduate, 2020 - 2021
Diferansiyel Denklemler, Undergraduate, 2021 - 2022
Sayısal Analiz, Undergraduate, 2020 - 2021

Advising Theses

Demir U., İki serbestlik dereceli araç simülatörü analizi ve uygulaması, Postgraduate, B.DEMİRCİ(Student), 2023
Aküner M. C., Demir U., YAPAY SİNİR AĞI İLE DAHİLİ MIKNATISLI MOTORLAR İÇİN ROTOR VE STATOR GEOMETRİSİ KESTİRİMİ, Postgraduate, M.POURKARIMI(Student), 2022

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Intelligent Design Optimization for Traction and Steering Motors of an Autonomous Electric Shuttle under Driving Scenarios**
DEMİR U., Ehsani M., DEMİR P., Akıncı T. Ç.
Electronics (Switzerland), vol.13, no.3, 2024 (SCI-Expanded)

II. **Feature Extraction and NN-based Enhanced Test Maneuver Deployment for 2 DoF Vehicle Simulator**
DEMİR U., AKGÜN G., AKÜNER M. C., Demirci B., AKGÜN Ö., Akıncı T. Ç.
IEEE Access, vol.11, pp.36218-36232, 2023 (SCI-Expanded)

III. **Comparative Design Improvement of the Growing Rod for the Scoliosis Treatment Considering the Mechanical Complications**
Demir U., Akgün G., Kocaoğlu S., Okay E., Heydar A., Akdoğan E., Yıldırım A., Yazı S., Demirci B., Kaplanoglu E.
IEEE Access, 2023 (SCI-Expanded)

IV. **An Innovative Approach to Electrical Motor Geometry Generation using Machine Learning and Image Processing Techniques**
DEMİR U., AKGÜN G., AKÜNER M. C., Pourkarimi M., AKGÜN Ö., Akıncı T. Ç.
IEEE Access, vol.11, pp.48651-48666, 2023 (SCI-Expanded)

V. **IM to IPM design transformation using neural network and DoE approach considering the efficiency and range extension of an electric vehicle**
DEMİR U.
ELECTRICAL ENGINEERING, vol.104, no.2, pp.1141-1152, 2022 (SCI-Expanded)

VI. **Improvement of the power to weight ratio for an induction traction motor using design of experiment on neural network**
DEMİR U.
Electrical Engineering, vol.103, pp.2267-2284, 2021 (SCI-Expanded)

VII. **Performance assessments of the material for the traction motor cores of an electric racing kart**
DEMİR U., Kocabicak Z. K.
MATERIALS TESTING, vol.63, no.6, pp.519-528, 2021 (SCI-Expanded)

VIII. **Design and optimization of an electromechanical actuator for the latch of a foldable vehicle seat**
Kamis Z., Demir U.

MATERIALS TESTING, vol.62, no.7, pp.749-755, 2020 (SCI-Expanded)

IX. **Design and analysis of radiaxial induction motor**
Demir U., Aküner M. C.
Electrical Engineering, vol.100, no.4, pp.2361-2371, 2018 (SCI-Expanded)

X. **Design and optimization of in-wheel asynchronous motor for electric vehicle**
Demir U., Akuner M. C.
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.33, no.4, pp.1517-1530, 2018 (SCI-Expanded)

XI. **Using taguchi method in defining critical rotor pole data of LSPMSM considering the power factor and efficiency Definiranje kritičnih podataka pola rotora LSPMSM-a s obzirom na faktor snage i učinkovitosti uporabomTaguchijeve metode**
Demir U., Aküner M. C.
Tehnicki Vjesnik, vol.24, no.2, pp.347-353, 2017 (SCI-Expanded)

XII. **Human impedance parameter estimation using artificial neural network for modelling physiotherapist motion**
DEMİR U., Kocaoglu S., AKDOĞAN E.
BIOCYBERNETICS AND BIOMEDICAL ENGINEERING, vol.36, no.2, pp.318-326, 2016 (SCI-Expanded)

XIII. **A new approach in application and design of toroidal axial-flux permanent magnet open-slotted NN type (TAFPMOS-NN) motor Novi pristup u primjeni i projektiranju NN tipa motora otvorenih utora s permanentnim magnetima prstenastog aksijalnog toka (TAFPMOS-NN)**
Hüner E., Aküner M. C., Demir U.
Tehnicki Vjesnik, vol.22, no.5, pp.1193-1198, 2015 (SCI-Expanded)

Articles Published in Other Journals

I. **Multi System Level Driving Scenarious Based Topology Optimization of Bracket Design for 2 DoF Vehicle Simulator**
Demirci B., demir u., AKGUN G., YILDIRIM A., Aküner C.
International Journal of Automotive Science and Technology, vol.7, no.3, pp.248-258, 2023 (Scopus)

II. **Investigation on Different Driving Cycle and Scenarios Considering the Autonomous Electric Vehicles**
DEMİR U., KAMIŞ KOCABIÇAK Z.
International Journal of Automotive Science and Technology, vol.6, no.4, pp.364-378, 2022 (Peer-Reviewed Journal)

III. **FFT Analysis and Motion Classification of EMG Signals**
AKGÜN G., DEMİR U., YILDIRIM A.
Computer Science, pp.130-136, 2022 (Peer-Reviewed Journal)

IV. **Design and Prototyping of Powered Sliding Door for Light Commercial Vehicles**
DEMİR U.
International Journal of Automotive Science and Technology, vol.5, no.2, pp.106-115, 2021 (Peer-Reviewed Journal)

V. **Taşıtlarda Katlanabilir Koltuk Sistemleri için Selonoid Aktüatör Tasarım ve Analizi**
DEMİR U.
International Journal of Advances in Engineering and Pure Sciences, vol.32, no.2, pp.158-171, 2020 (Peer-Reviewed Journal)

VI. **Analysis of In-Wheel Asynchronous Motor with Conical Geometry for Electric Vehicle**
Demir U., Aküner M. C.
Journal of New Results in Science, vol.7, no.1, pp.29-37, 2018 (Peer-Reviewed Journal)

VII. **Analysis of In-Wheel Asynchronous Motor with Conical Geometry for Electric Vehicle**
DEMİR U., AKÜNER M. C.
Journal of New Results in Science, vol.7, no.1, pp.29-37, 2018 (Peer-Reviewed Journal)

VIII. **Investigation on the Output Signal of Rotational Speed Sensor for Different Flux Surfaces between Gear Wheel and Sensor**
Demir U., Demir P., Aküner M. C.
Applied Mechanics and Materials, vol.850, pp.172-178, 2016 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. **Neural Network and IoT-based Test Maneuver Deployment for 2 DoF Vehicle Simulator**
DEMİRCİ B., DEMİR U., AKGÜN G., YILDIRIM A., AKÜNER M. C., ÖZKAN M.
2022 International Conference on Artificial Intelligence of Things (ICAIoT), 29 December 2022, vol.11

II. **Investigation of UWB-IMU Sensor Fusion for Indoor Navigation with DoE**
Durmus S., DEMİR U., AKGÜN G., YILDIRIM A.
2023 Innovations in Intelligent Systems and Applications Conference, ASYU 2023, Sivas, Turkey, 11 - 13 October 2023

III. **Neural Network Approach for E-Motor Development**
Pourkarimi M., Demir U., Aküner M. C.
2022 8th International Conference on Control, Decision and Information Technologies (CoDIT), İstanbul, Turkey, 17 May 2022, vol.1, pp.1091-1095

IV. **Comparision Between Two Different Types of Solenoids Designed for Automotive Latch Application**
DEMİR U., KAMIŞ KOCABIÇAK Z.
OTEKON2020 - 10th International Automotive Technologies Congress, Bursa, Turkey, 6 - 07 September 2021, pp.702-706

V. **A releasing mechanism for the automotive seat latch using shape memory spring**
DEMİR U.
ISASTECH2019-1st International Symposium On Automotive Science And Technology, Ankara, Turkey, 5 - 06 September 2019

VI. **Automatic closing of automotive glove box using shape memory spring**
DEMİR U.
ISASTECH2019-1st International Symposium On Automotive Science And Technology, Ankara, Turkey, 5 - 06 September 2019

VII. **Comparison between two conical induction machines designed for an electric vehicle application**
Demir U., Roggia S., Aküner M. C.
11th IEEE International Electric Machines and Drives Conference, IEMDC 2019, California, United States Of America, 12 - 15 May 2019, pp.1032-1037

VIII. **A New Approach for In-Wheel Asynchronous Motor of Electric Vehicle"**
DEMİR U., AKÜNER M. C.
ISMSIT2017-1st International Symposium on Multidisciplinary Studies and Innovative Technologies, Tokat, Turkey, 2 - 04 November 2017

IX. **Investigation and Improvement of InWheel Asynchronous Motor for An Electrical Vehicle Considering Geometric Dimensioning**
DEMİR U., AKÜNER M. C.
IATS2017-8th International Advanced Technology Symposium, Elazığ, Turkey, 19 - 22 October 2017

X. **Investigation of the immunity to voltage over stress requirement for the electrical seat latch actuator**
Demir U., Aküner M. C.
4th International Conference on Electrical and Electronics Engineering, ICEEE 2017, Ankara, Turkey, 8 - 10 April 2017, pp.187-193

XI. **Otomotiv Ateşleme Bobinlerinde Hava Aralığı Değişiminin Ateşleme Performansına Etkisinin Sonlu Elemanlar Analizi ile İncelenmesi**
DEMİR U., AKÜNER M. C.

EEB2016-Elektrik-Elektronik ve Bilgisayar Sempozyumu, Tokat, Turkey, 11 - 13 May 2016

Supported Projects

Demir U., Akdoğan E., Okay E., Heydar A. M., Kocaoğlu S., Akgün G., TUBITAK Project, Tübitak Proje Numarası : 121E492, Skolyoz Tedavisi için Manyetik Aktüatör ve Kontrol Ünitesinin Geliştirilmesi, 2022 - 2024
Demir U., TUBITAK Project, Skolyoz Tedavisi Için Manyetik Aktüatör Ve Kontrol Ünitesinin Geliştirilmesi, 2022 - 2023
Demir U., TUBITAK Project, Erken Başlangiçli Skolyozda Tedavi Öncesi Teşhis - Süreç Planlama Asistani Ve Simülatörü Geliştirme (SMARTACT), 2022 - 2023
Akgün G., Kocaoğlu S., Okumuş A., Demir U., TUBITAK Project, TÜBİTAK Proje Numarası :2210861, ERKEN BAŞLANGIÇLI SKOLYOZDA TEDAVİ ÖNCESİ TEŞHİS - SÜREÇ PLANLAMA ASİSTANI VE SİMÜLATÖRÜ GELİŞTİRME (SMARTACT), 2022 - 2023
Demir U., TUBITAK Project, 3 Boyutlu Anten Uzak Alan Ölçüm Sistemi Tasarim Ve Geliştirilmesi, 2022 - 2023
Demir U., TUBITAK Project, TÜBİTAK (Proje No : 3180021) IOT ve Makine Öğrenmesi Tabanlı ERP Eşlenik Akıllı Kestirimci Sac Şekillendirme Kalıp Bakım Sistemi Geliştirme, 2018 - 2021
Demir U., Project Supported by Other Private Institutions, ASAP Askeri Otonom Araç Geliştirme Projesi - BMC Otomotiv San ve Tic A.Ş., 2019 - 2020
Demir U., Project Supported by Other Private Institutions, Yer Kontrol İstasyonu Geliştirme Projesi - BMC Otomotiv San. ve Tic. A.Ş., 2019 - 2020
Demir U., TUBITAK Project, TÜBİTAK (Proje No: 1180169) Hafif ve Hibrit Metal-plastik Otomotiv Parçaları için "Lazerli Yüzey Mikro-işleme prosesi ve Entegre Üretim Süreçleri Geliştirme, 2018 - 2020
Demir U., H2020 Project, Friction Harmonics http://fh.iknowhow.com/partnersH2020-EIC-FTI-2018-2020, 2018 - 2020
Demir U., TUBITAK Project, TÜBİTAK (Proje No: 3160977) Binek ve Hafif Ticari Araçlar için Yenilikçi Denetim Yapısına Sahip Elektrikli Kayar Kapı Sisteminin Geliştirilmesi, 2017 - 2019
Demir U., Aküner M. C., Project Supported by Higher Education Institutions, BAP (Proje No: FEN-C-DRP090217-0057) Elektrikli Araçlar için Doğrudan Tahrikli Radiaxial Akılı Asenkron Motor Tasarımı ve Uygulaması, 2017 - 2018
Demir U., Project Supported by Other Private Institutions, Gazelle Next Elektrikli Kayar Kapı Geliştirme Projesi (Rack and Pinion) - Rollmech Automotive A.Ş., 2016 - 2017
Demir U., Project Supported by Other Private Institutions, Jaguar Land Rover L405 Elektrikli Koltuk Kilidi Geliştirme Projesi - Rollmech Automotive A.Ş., 2015 - 2017
Demir U., Project Supported by Other Private Institutions, Ford Elektrikli Kayar Kapı Geliştirme Projesi (Pulley and Belt) - Rollmech Automotive A.Ş., 2016 - 2016
Demir U., Project Supported by Other Private Institutions, Mercedes Rotational Speed Sensor Geliştirme Projesi - Ünüvar Elektronik San. ve Tic. A.Ş., 2014 - 2015
Demir U., Project Supported by Other Private Institutions, Fiat 356 Aktif Anten Geliştirme Projesi - Ünüvar Elektronik San. ve Tic. A.Ş., 2013 - 2015
Demir U., Project Supported by Other Private Institutions, Mercedes Aktif Anten GPS/GNSS Geliştirme Projesi - Ünüvar Elektronik San. ve Tic. A.Ş., 2013 - 2015
Demir U., Project Supported by Other Private Institutions, 3 Eksen Vibrasyon Cihazı Anten Test Ünitesi - Ünüvar Elektronik San. ve Tic. A.Ş., 2014 - 2014
Demir U., TUBITAK Project, TÜBİTAK (Proje No : 7121001) Otomobiller İçin İthal İkame Ateşleme Bobini GeliştirilmesiKuruluş Adı : ÜNÜVAR ELEKTRONİK SANAYİ VE TİCARET ANONİM ŞİRKETİ, 2012 - 2013
Demir U., Project Supported by Other Private Institutions, FORD B460 DCDC Konverter Geliştirme Projesi - Ünüvar Elektronik San. ve Tic. A.Ş., 2011 - 2012

Patent

Demir U., Aküner M. C., Akgün G., Yapay Sinir Ağı Kullanılarak Elektrik Motoru Tasarımında Rotor ve Stator Geometrileri Kestirme ve Analiz Etme Yöntemi, Patent, CHAPTER H Electricity, The Invention Registration Number: 2022 007738 ,

Standard Registration, 2023
AKÜNER M. C., DEMİR U., Radıaxıal flux motor wıth a conıcal stator and rotor assembly, Patent, CHAPTER H Electricity, Standard Registration, 2018
Demir P., Demir U., Lazerli haberleşme analizi yapan bir cihaz, Patent, CHAPTER H Electricity, The Invention Recourse Number: 2016/06592 , Standard Registration, 2016
Demir U., Demir P., Şekil Hafizali Metaller İle Torpido Gözü Gibi Kapali Alanlari Otomatik Olarak Kapatan Sistem, Patent, CHAPTER H Electricity, The Invention Recourse Number: 2015/16474 , Standard Registration, 2015

Scientific Refereeing

Horizon Europe Project, Horizon Europe Project, Ford, Turkey, August 2022
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, National Scientific Refreed Journal, June 2022
IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, National Scientific Refreed Journal, May 2022
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, MFAG, Turkey, December 2021
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, National Scientific Refreed Journal, May 2021
IEEE TRANSACTIONS ON MAGNETICS, National Scientific Refreed Journal, April 2021
International Journal of 3D Printing Technologies and Digital Industry, National Scientific Refreed Journal, December 2020
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Gebze Technical University, Turkey, December 2020
TUBITAK Project, 1501 - Industry R & D Projects Support Program, ETKİN TIBBİ CİHAZLAR SANAYİ VE TİCARET ANONİM ŞİRKETİ (İZMİR), Turkey, October 2020
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, National Scientific Refreed Journal, August 2020
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, National Scientific Refreed Journal, June 2020
International Journal of Automotive Science and Technology, National Scientific Refreed Journal, May 2020
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, National Scientific Refreed Journal, May 2020
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, National Scientific Refreed Journal, April 2020
TUBITAK Project, 1501 - Industry R & D Projects Support Program, GEMTEKNO MEKATRONİK LİMİTED ŞİRKETİ (İSTANBUL), Turkey, April 2020
TUBITAK Project, 1501 - Industry R & D Projects Support Program, DİJİTAL TANIMA SİSTEMLERİ SAN. VE TİC. LTD. ŞTİ. (İSTANBUL), Turkey, March 2020
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, National Scientific Refreed Journal, February 2020
IEEE TRANSACTIONS ON MAGNETICS, National Scientific Refreed Journal, February 2020
TUBITAK Project, 1501 - Industry R & D Projects Support Program, AKANA MÜH. VE TİC. A.Ş. (ANKARA), Turkey, February 2020
TUBITAK Project, 1501 - Industry R & D Projects Support Program, MDS MOTOR TASARIM TEKNOLOJİLERİ VE YAZILIM ÇÖZÜM. SAN VE TİC. LTD. ŞTİ. (KOCAELİ), Turkey, February 2020
TUBITAK Project, 1501 - Industry R & D Projects Support Program, YAKINDOĞU OTOMOTIV SAN. VE TİC. LTD.ŞTİ. (İZMİR), Turkey, February 2020
TUBITAK Project, 1501 - Industry R & D Projects Support Program, PROMETHOD MÜHENDISLIK ELEKTRIK ELEKTRONIK ARASTIRMA GELISTIRME DANISMANLIK SANAYI VE TIC. LTD. ŞTİ. (ANKARA), Turkey, February 2020
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, National Scientific Refreed Journal,

December 2019
TUBITAK Project, 1501 - Industry R & D Projects Support Program, ASİS ELEKTRONİK VE BİLİŞİM SİSTEMLERİ A.Ş. (İSTANBUL), Turkey, December 2019
TUBITAK Project, 1501 - Industry R & D Projects Support Program, DESİRD TASARIM ARGE ANONİM ŞİRKETİ (ANTALYA), Turkey, November 2019
TUBITAK Project, 1501 - Industry R & D Projects Support Program, SERDAR PLASTİK SAN. VE TİC. A.Ş. (ANKARA), Turkey, October 2019
TUBITAK Project, 1501 - Industry R & D Projects Support Program, KAREL ELEKTRONİK SANAYİ VE TİCARET ANONİM ŞİRKETİ (ANKARA), Turkey, September 2019
TUBITAK Project, 1501 - Industry R & D Projects Support Program, HAVELSAN HAVA ELEKTRONİK SAN. VE TİC. A.Ş. (ANKARA), Turkey, August 2019
TUBITAK Project, 1501 - Industry R & D Projects Support Program, ALP HAVACILIK SANAYİ VE TİCARET A.Ş. (ESKİŞEHİR), Turkey, August 2019
COMPUTERS AND ELECTRICAL ENGINEERING, National Scientific Refreed Journal, May 2019
COMPUTERS AND ELECTRICAL ENGINEERING, National Scientific Refreed Journal, May 2019
COMPUTERS AND ELECTRICAL ENGINEERING, National Scientific Refreed Journal, May 2018
COMPUTERS AND ELECTRICAL ENGINEERING, National Scientific Refreed Journal, May 2018
COMPUTERS AND ELECTRICAL ENGINEERING, National Scientific Refreed Journal, May 2018
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, National Scientific Refreed Journal, April 2018
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, National Scientific Refreed Journal, February 2018
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, National Scientific Refreed Journal, April 2017
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, National Scientific Refreed Journal, October 2015

Metrics

Publication: 33
Citation (WoS): 53
Citation (Scopus): 69
H-Index (WoS): 5
H-Index (Scopus): 5

Non Academic Experience

Company, SmartACT San. ve Tic. A.Ş., Araştırma ve Geliştirme
SmartACT Medikal Robotik Mobilite Teknolojileri San. ve Tic. A.Ş.
Company, BMC Otomotiv San.ve Tic. A.Ş., Araştırma ve Geliştirme
BMC Otomotiv San. ve Tic. A.Ş.
Company, Coşkunöz Holding A.Ş., Araştırma ve Geliştirme
Company, Rollmech Automotive A.Ş., Araştırma ve Geliştirme
Company, Ünüvar Elektronik San.ve Tic.A.Ş., Araştırma ve Geliştirme
Ünüvar Elektronik A.Ş.