

## Asst. Prof. Mehmet İŞCAN

### Personal Information

**Email:** miscan@yildiz.edu.tr

**Web:** <https://avesis.yildiz.edu.tr/miscan>

### International Researcher IDs

ORCID: 0000-0003-2261-8218

Yoksis Researcher ID: 231413

### Education Information

Doctorate, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechatronics Engineering, Turkey 2016 - 2023

Postgraduate, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Mekatronik Mühendisliği, Turkey 2013 - 2016

Undergraduate, Yildiz Technical University, Makina Fakültesi, Mekatronik Mühendisliği, Turkey 2009 - 2013

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Postgraduate, A NEW METHOD FOR QT INTERVAL ANALYSIS OF ECG SIGNALS BASED ON GAUSSIAN MIXTURE MODEL AND NEURAL NETWORK, Yıldız Teknik Üniversitesi, Graduate School of Natural and Applied Sciences, Mekatronik Mühendisliği, 2016

### Research Areas

Computer Sciences, Artificial Intelligence, Computer Learning and Pattern Recognition, Neural Networks, Biomedical Engineering, Biosignal Processing, Biosignal Processing, Mechanical Engineering, Machine Theory and Dynamics, Mechatronics, Engineering and Technology

### Academic Titles / Tasks

Assistant Professor, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechatronics Engineering, 2024 - Continues

Research Assistant PhD, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechatronics Engineering, 2023 - 2024

Research Assistant, Yildiz Technical University, Faculty Of Mechanical Engineering, Department Of Mechatronics Engineering, 2014 - 2023

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

- I. **An intelligent aortic valve model for complete cardiac cycle**  
İŞCAN M., YEŞİLDİREK A.  
International Journal for Numerical Methods in Biomedical Engineering, vol.40, no.8, 2024 (SCI-Expanded)
- II. **Adaptive elliptic trajectory-based received signal strength indicator antenna tracking algorithm**  
Taş A. İ., İscan M., Gurkan B., Yilmaz C.  
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, vol.46, no.11, pp.2077-2086, 2024 (SCI-Expanded)
- III. **Novel aortic heart valve model parameterizing normal and pathological cases: Aortic stenosis and regurgitation**  
İşcan M., Yeşildirek A.  
Transactions of the Institute of Measurement and Control, vol.45, no.15, pp.2997-3010, 2023 (SCI-Expanded)
- IV. **A New Cardiovascular Mock Loop Driven by Novel Active Capacitance in Normal and Abnormal Conditions**  
İşcan M., Yesildirek A.  
APPLIED BIONICS AND BIOMECHANICS, pp.1-20, 2023 (SCI-Expanded)
- V. **A novel elliptic trajectory formula for active RSSI-based antenna tracking algorithm**  
İşcan M., Taş A. İ., Gürkan B., Yılmaz C.  
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, vol.45, no.14, pp.2760-2770, 2023 (SCI-Expanded)
- VI. **Modelling Transient Cardiovascular Hemodynamics with Physiological Conscious Autoencoder**  
İscan M., Yeşildirek A.  
IEEE ACCESS, vol.10, no.1, pp.1-8, 2023 (SCI-Expanded)
- VII. **A Fully Automatic Novel Method to Determine QT Interval Based on Continuous Wavelet Transform**  
Yılmaz C., İşcan M., Yılmaz A.  
ELECTRICA, vol.17, no.1, pp.3093-3099, 2017 (SCI-Expanded)

## **Articles Published in Other Journals**

- I. **DISCRETE TIME-BASED FEEDBACK LINEARIZATION CONTROLLER APPROACH FOR ROBOT MANIPULATOR**  
Vural B., Taş A. İ., Özden A. B., Aydın M., İşcan M., Yılmaz C.  
F.Ü. Uzay ve Savunma Teknolojileri Dergisi, vol.1, no.1, pp.180-185, 2022 (Peer-Reviewed Journal)
- II. **ANTENNA TRACKER DESIGN WITH A DISCRETE LYAPUNOV STABILITY BASED CONTROLLER FOR MINI UNMANNED AERIAL VEHICLES**  
İŞCAN M., TAŞ A. İ., Vural B., Özden A. B., YILMAZ C.  
International Journal of Multidisciplinary Studies and Innovative Technologies, vol.6, no.1, pp.77-85, 2022 (Peer-Reviewed Journal)
- III. **A Novel QT Interval Analysis Method Based On Continuous Wavelet Transform and Philips Algorithm**  
İŞCAN M., YILMAZ A., Vural B., YILMAZ C., TUZCU V.  
Journal of Engineering and Science in Medical Diagnostics and Therapy, vol.5, no.1, pp.1-7, 2022 (Peer-Reviewed Journal)
- IV. **Modeling and Simulation of a Lower Limb Exoskeleton System with Pathologic Cases**  
İŞCAN M., YILMAZ C., Vural B., Eken H.  
ASME Journal of Engineering and Science in Medical Diagnostics and Therapy, 2022 (Peer-Reviewed Journal)
- V. **GERİ DÖNÜŞÜMLÜ YAPAY SİNİR AĞI TABANLI T DALGASI SONU TESPİTİ**  
İŞCAN M., YEŞİLDİREK A.  
ENGINEERING SCIENCES, 2020 (Peer-Reviewed Journal)
- VI. **GERİ DÖNÜŞÜMLÜ YAPAY SİNİR AĞI TABANLI T DALGASI SONU TESPİTİ**  
İŞCAN M., YEŞİLDİREK A.  
ENGINEERING SCIENCES, 2020 (Peer-Reviewed Journal)

- VII. **QT Zaman Aralığının Gauss Karışım Modeli ve Yapay Sinir Ağı Tabanlı Tespiti**  
İŞCAN M., YILMAZ C.  
Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, vol.6, pp.752-762, 2017 (Peer-Reviewed Journal)

## **Books & Book Chapters**

- I. **İleri Robotik - Ortaokul**  
Yılmaz C., Aktan M. E., Ömürlü V. E., İşcan M.  
TÜBİTAK Yayınları, Ankara, 2024
- II. **İleri Robotik - Lise**  
Yılmaz C., Aktan M. E., Ömürlü V. E., İşcan M.  
TÜBİTAK Yayınları, Ankara, 2024

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **Dört Pervaneli İnsansız Hava Araçlarında PID Kazanç Optimizasyonu**  
İşcan M.  
Uluslararası Bilimsel Alanlarda Yenilikler Sempozyumu , Antalya, Turkey, 7 - 08 June 2024, pp.1-6
- II. **Real Time Discrete Control Algorithm for Gimbal System Design in Mini Unmanned Aerial Vehicles**  
Taş A. İ., İşcan M., Özden A. B., Çınar E., Vural B., Yılmaz C.  
4th International Congress on Human-Computer Interaction, Optimization and Robotic Applications, Ankara, Turkey, 09 June 2022
- III. **ANTENNA TRACKER DESIGN WITH A DISCRETE LYAPUNOV STABILITY BASED CONTROLLER FOR MINI UNMANNED AERIAL VEHICLES**  
İŞCAN M., Taş A. İ., Vural B., Özden A. B., YILMAZ C.  
4th International Congress on Human-Computer Interaction, Optimization and Robotic Applications, Ankara, Turkey, 09 June 2022
- IV. **Lyapunov Control Method Based Optimal Control of Alpha-Type Stirling Motor**  
Azanpa M., Vural B., Taş A. İ., Özden A. B., İşcan M.  
4th International Congress on Human-Computer Interaction, Optimization and Robotic Applications, Ankara, Turkey, 09 June 2022
- V. **MODIFIED BETA TYPE STIRLING MOTOR CONTROL BASED ON LYAPUNOV THEORY**  
KOYUN A., İŞCAN M., AZANPA M.  
5TH INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING ISTANBUL 2019, İstanbul, Turkey, 17 - 19 December 2019
- VI. **MODELLING AND CONTROL OF HIGH PRECISION POSITIONING SYSTEM WITH ELECTROMAGNETIC ACTUATOR**  
KOYUN A., Kurt R., İŞCAN M.  
5TH INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING ISTANBUL 2019, İstanbul, Turkey, 17 December 2019 - 19 July 2020
- VII. **DESIGN AND CONTROL OF AN EXOSKELETON ROBOT: A MATLAB SIMSCAPE APPLICATION**  
İŞCAN M., Vural B., Eken H., YILMAZ C.  
4TH INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING: ICAME 2018, İstanbul, Turkey, 19 December 2018, pp.1
- VIII. **Design and Control Strategy of Different Scanning Calorimetry**  
İŞCAN M., KURT R., KOYUN A.  
4TH INTERNATIONAL CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING ISTANBUL, 19 - 21 December 2018
- IX. **Hand gesture movement classification based on dynamically structured neural network**

İŞCAN M., emeç c., YEŞİLDİREK A.

2018 Electric Electronics, Computer Science, Biomedical Engineerings'xx Meeting (EBBT), İstanbul, Turkey, 18 - 19 April 2018

- X. **Bir Üst Uzuv Rehabilitasyon Robotu Kullanarak EMG Sinyalleriyle Yapay Sinir Ağları Tabanlı Empedans Tahmini**  
Güney Ö. F., İşcan M., Akdoğan E.  
Otomatik Kontrol Ulusal Toplantısı, TOK 2017, İstanbul, Turkey, 21 September - 23 December 2017, vol.1, pp.484-489
- XI. **Gradient descent based classification of road induced disturbances for active suspension systems Aktif Söspansiyon Sistemleri için Yol Kaynaklı Bozucuların Gradyan İniş Tabanlı Sınıflandırılması**  
İŞCAN M., Sever M.  
2017 Electric Electronics, Computer Science, Biomedical Engineerings' Meeting, EBBT 2017, İstanbul, Turkey, 20 - 21 April 2017
- XII. **Optimization of the heart pump geometry based on multiple gradient descent algorithm Kalp pompası geometrik optimizasyonunun çoklu gradyan algoritması tabanında modellenmesi**  
İŞCAN M., Kadipasaoglu K.  
2017 Electric Electronics, Computer Science, Biomedical Engineerings' Meeting, EBBT 2017, İstanbul, Turkey, 20 - 21 April 2017
- XIII. **ROTOR and DIFFUSER OPTIMIZATION of a NOVEL AXIAL FLOW LEFTVENTRICULAR ASSIST DEVICE**  
İŞCAN M., KADIPAŞAOĞLU A. K.  
The 3rd International Conference on Engineering and Natural Sciences(ICENS), Budapest, Hungary, 3 - 07 May 2017, pp.1
- XIV. **Multilead QT Interval Analysis Algorithm Based on Continuous Wavelet Transform**  
İŞCAN M., SARIOZKAN S., Yilmaz A., YILMAZ C.  
4th International Conference on Electrical and Electronic Engineering (ICEEE), Ankara, Turkey, 8 - 10 April 2017, pp.318-322
- XV. **QT Zaman Aralığı Analizi İçin Sürekli Dalgacık Dönüşümü Ve Philips Metodu Tabanlı Özgün Bir Algoritma**  
İŞCAN M., YILMAZ A., YILMAZ C.  
ELECO 2016, Antalya, Turkey, 1 - 03 December 2016
- XVI. **A Novel Algorithm Combining Continuous Wavelet Transform and Philips Method For QT Interval Analysis**  
İŞCAN M., YILMAZ A., YILMAZ C.  
Elektrik - Elektronik ve Biyomedikal Mühendisliği Konferansı, 01 December 2016
- XVII. **Yapay Zeka Tabanında Otomatik QT zaman aralığı Ölçümü**  
İŞCAN M., YILMAZ C., YİĞİT F.  
TIPTEKNO'16 TIP TEKNOLOJİLERİ KONGRESİ, Antalya, Turkey, 27 - 29 October 2016
- XVIII. **Automatic QT interval Measurement Based on Neural Networks**  
İŞCAN M., YILMAZ C., YİĞİT F.  
TIPTEKNO'16 Tıp Teknolojileri Kongresi, Antalya, Turkey, 27 October 2016, pp.94-97
- XIX. **A Fully Automatic Novel Method to Determine QT Interval Based on Continuous Wavelet Transform**  
YILMAZ A., İŞCAN M., YILMAZ C.  
TIPTEKNO'2016 Tıp Teknolojileri Kongresi, Antalya, Turkey, 27 - 29 October 2016, vol.17, pp.3093-3099
- XX. **Heartbeat pattern classification algorithm based on Gaussian mixture model**  
İŞCAN M., YİĞİT F., YILMAZ C.  
11th IEEE International Symposium on Medical Measurements and Applications, MeMeA 2016, Benevento, Italy, 15 - 18 May 2016
- XXI. **Gauss Karışım Modeli Tabanında T Dalgası Sonu Sınıflaması**  
İŞCAN M., YİĞİT F., YILMAZ C.  
24. Sinyal İşleme ve İletişim Uygulamaları Kurultayı (SİU2016), Zonguldak, Turkey, 16 May 2016, pp.1
- XXII. **Gauss Karışım Modeli Tabanında Aritmik ve Aritmik olmayan Kalp Atımı Sınıflaması**

İŞCAN M., YILMAZ C., YİĞİT F.

2016 Electric Electronics, Computer Science, Biomedical Engineerings' Meeting (EBBT), İstanbul, Turkey, 26 April 2016, pp.1-4

**XXIII. Arrhythmic and Non Arrhythmic Heartbeat Classification based on Gaussian Mixture Model**

İŞCAN M., YILMAZ C., YİĞİT F.

2016 Electric Electronics, Computer Science, Biomedical Engineerings' Meeting (EBBT), İstanbul, Turkey, 26 - 27 April 2016

**XXIV. T-Wave End Pattern Classification Based on Gaussian Mixture Model**

İŞCAN M., Yigit F., YILMAZ C.

24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1953-1956

## Supported Projects

İŞCAN M., Project Supported by Other Official Institutions, T Dalga Alternansı Sınıflaması Yapabilen Taşınabilir Bir Kaydedici Tasarımı ve Yazılım Uygulaması, 2015 - 2016

İŞCAN M., Other International Funding Programs, Lazer Vakum Kaplama Cihaz Tasarımı, 2012 - 2013

## Metrics

Publication: 40

Citation (WoS): 3

Citation (Scopus): 13

H-Index (WoS): 1

H-Index (Scopus): 3

## Awards

İŞCAN M., TÜBİTAK 2241-B Sanayi Odaklı Bitirme Projeleri, TÜBİTAK 2241-B Sanayi Odaklı Bitirme Projeleri, July 2013

## Non Academic Experience

PHINITE MÜHENDİSLİK VE TEKNOLOJİ SAN. TİC. LTD. ŞTİ.

Business Establishment Private, Pulse&More Corporation

PULSE AND MORE ARGE VE DANIŞMANLIK LTD ŞTİ

Business Establishment Private, Alarge Alıç Ağacı Mak. Elek. Ar-Ge San. Tic. Ltd. Şti.