

Asst. Prof. Ahmet KIRLI

Personal Information

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Biography

Ahmet KIRLI is a faculty member of the department of mechatronics engineering at Yıldız Technical University, where he has been a member since 2009. Dr. KIRLI received his B.S., M.Sc., and Ph.D. from Mechanical Engineering at Dumlupınar University in 2008, at Istanbul Technical University in 2010 and at Yıldız Technical University in 2015, respectively. He was with University of Michigan for post-doctoral studies in 2016. His research topics include but not limited to mechatronic systems, UAVs, tactile sensor, vehicle dynamics and control.

Education Information

Post Doctorate, University of Michigan, Faculty Of Engineering, Mechanical Engineering, United States Of America 2016 - 2017

Doctorate, Yıldız Technical University, Faculty Of Mechanical Engineering, Makine Mühendisliği, Turkey 2010 - 2015

Postgraduate, Istanbul Technical University, Makine Fakültesi, Makine Mühendisliği, Turkey 2008 - 2010

Undergraduate, Dumlupınar Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, Turkey 2004 - 2008

Foreign Languages

English, C1 Advanced

Research Areas

Mechanical Engineering, Machine Theory and Dynamics, System Dynamics and Control, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Yıldız Technical University, Faculty Of Mechanical Engineering, Mekatronik Müh., 2018 - Continues
Research Assistant PhD, Yıldız Technical University, Faculty Of Mechanical Engineering, Mekatronik Mühendisliği Bölümü, 2009 - 2018

Other, University of Michigan, College Of Engineering, Mechanical Engineering, 2016 - 2017

Research Assistant, University of Connecticut, College Of Engineering, Mechanical Engineering, 2011 - 2012

Published journal articles indexed by SCI, SSCI, and AHCI

- I. Carsickness-based design and development of a controller for autonomous vehicles to improve the

comfort of occupants

Sever M., ZENGİN N., KIRLI A., ARSLAN M. S.

Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, vol.235, no.1, pp.162-176, 2021 (SCI-Expanded)

II. Torque-Vectoring-Based Backup Steering Strategy for Steer-by-Wire Autonomous Vehicles With Vehicle Stability Control

Kirli A., Chen Y., Okwudire C. E., Ulsoy A. G.

IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, vol.68, pp.7319-7328, 2019 (SCI-Expanded)

III. A low-cost, human-like, high-resolution, tactile sensor based on optical fibers and an image sensor

Buyuksahin U., Kırılı A.

INTERNATIONAL JOURNAL OF ADVANCED ROBOTIC SYSTEMS, vol.15, 2018 (SCI-Expanded)

IV. Online optimized hysteresis-based steering feel model for steer-by-wire systems

KIRLI A., Arslan M. S.

ADVANCES IN MECHANICAL ENGINEERING, vol.8, no.7, 2016 (SCI-Expanded)

V. An experimental stationary quadrotor with variable DOF

ÖMÜRLÜ V. E., Buyuksahin U., Artar R., KIRLI A., TURGUT M. N.

SADHANA-ACADEMY PROCEEDINGS IN ENGINEERING SCIENCES, vol.38, no.2, pp.247-264, 2013 (SCI-Expanded)

VI. A stationary, variable DOF flight control system for an unmanned quadrocopter

ÖMÜRLÜ V. E., KIRLI A., Buyuksahin U., Engin S. N., Kurtoglu S.

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.19, no.6, pp.891-899, 2011 (SCI-Expanded)

Articles Published in Other Journals

I. On the Effect of Slung Load on Quadrotor Performance

Us K. Y., Cevher A., Sever M., Kırılı A.

Procedia Computer Science, vol.158, pp.346-354, 2019 (Scopus)

II. Design and Simulation of ANFIS Controller for Increasing the Accuracy of Leaf Spring Test Bench

Üstünışık E., Kırılı A.

Procedia Computer Science, vol.158, pp.169-176, 2019 (Scopus)

III. Reduction of Steering Effort in the Event of EPAS Failure using Differential Braking Assisted Steering

Zhang D., Lin B., Kirli A., Okwudire C.

SAE INTERNATIONAL JOURNAL OF TRANSPORTATION SAFETY, vol.5, no.2, pp.227-233, 2017 (ESCI)

IV. INVESTIGATION OF VEHICLE SUSPENSION CONTROL STRATEGIES WITH WHEEL MOTION MEASUREMENTS: DELAYED RESONATOR AND EXTENDED GROUND HOOK CONTROL

Sever M., Kırılı A.

International Journal of Advances on Automotive and Technology, vol.1, no.2, pp.83-88, 2017 (Peer-Reviewed Journal)

V. Fuzzy logic modelling of a transparent and elastic silicone pad for a new and novel optic based tactile sensor

KIRLI A., Buyuksahin U.

Advances in Materials and Processing Technologies, vol.1, pp.306-315, 2015 (Scopus)

VI. A New Nondestructive Test Equipment Based On Image Processing and Magnetic Flux Analysis

BÜYÜKŞAHİN U., KIRLI A.

Advanced Materials Research, vol.1, pp.131-136, 2012 (Scopus)

Refereed Congress / Symposium Publications in Proceedings

- I. **Development of a Multibody Dynamic Model of a Seated Occupant to Evaluate More Realistic ISO-Standard Motion Sickness Dose Value**
Balci İ. C., Kirli A.
SAE 2023 World Congress Experience, WCX 2023, Michigan, United States Of America, 18 - 20 April 2023
- II. **Design and Integration of an Air Releasable Autonomous Unmanned Ground Vehicle**
Okumuş F. F., Çelikel M., Hasançebi İ. C., Uzunoglu M., KIRLI A.
2019 9th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Turkey, 11 - 14 June 2019, pp.627-633
- III. **Improvement of the Simulation Model for High Accuracy Leaf Spring Test Bench by Implementing Fuzzy Logic**
Üstünışık E., KIRLI A., Er İ., Erginsoy Y.
International Conference on Intelligent and Fuzzy Systems, İstanbul, Turkey, 23 - 25 July 2019, pp.1335-1342
- IV. **Investigating The Effect Of Look-Ahead Distance On Automated Steering Performance**
SEVER M., ZENGİN N., KIRLI A., ARSLAN M. S.
IEEE 6th International Conference on Control Engineering Information Technology, 25 - 27 October 2018, pp.509-515
- V. **Analyzing Motion Sickness Level in Autonomous Vehicles According To Look-Ahead Distance**
SEVER M., ZENGİN N., KIRLI A., ARSLAN M. S.
IEEE 6th International Conference on Control Engineering Information Technology, 25 - 27 October 2018, pp.491-496
- VI. **Tam Otonom Araçlarda Zaman Gecikmeli Geri Besleme ve Kararlılık Analizi**
KIRLI A.
OTOMATİK KONTROL TÜRK MİLLÎ KOMİTESİ ULUSAL TOPLANTISI, Turkey, 21 - 23 September 2017, pp.592-597
- VII. **Limitations of torque vectoring as a backup safety strategy for steer-by-wire vehicles due to vehicle stability control**
Kirli A., Okwudire C. E., Ulsoy A. G.
ASME 2017 Dynamic Systems and Control Conference, DSCC 2017, Virginia, United States Of America, 11 - 13 October 2017, vol.1
- VIII. **Investigation of Active Suspension Control Strategies Only with Wheel Motion Measurements Delayed Resonator and Ground Hook**
SEVER M., KIRLI A.
International Conference on Advances in Automotive Technologies 2016., 11 - 14 October 2016
- IX. **Steering Feel Design: The Effect of Mass Variation**
KIRLI A., ARSLAN M. S.
7th IFAC Symposium on Mechatronic Systems (MECHATRONICS), Leicester, United Kingdom, 5 - 08 September 2016, vol.49, pp.617-622
- X. **Optimization of Parameters in the Hysteresis-based Steering Feel Model for Steer-by-Wire Systems**
KIRLI A., Arslan M. S.
14th IFAC Symposium on Control in Transportation Systems (CTS), İstanbul, Turkey, 18 - 20 May 2016, vol.49, pp.129-134
- XI. **Design and application of an active suspension system on a 6 DOF half vehicle model**
KIRLI A.
25th International Conference on Information, Communication and Automation Technologies, ICAT 2015, Sarajevo, Bosnia And Herzegovina, 29 - 31 October 2015
- XII. **Model picosatellite design for energy harvesting and telemetry data transmission through RF communication**
SONGUL G., YALMAN A., Uginoglu A., GOKCE A., KOCULU O. E. C., Kirh A., KORU A. T., Tufekci C. S.
7th International Conference on Recent Advances in Space Technologies, RAST 2015, İstanbul, Turkey, 16 - 19 June 2015, pp.839-844
- XIII. **Model Picosatellite Design for Energy Harvesting and Data Transmission through RF Communication**
Songül G., Yalman A., İlginoglu A., Gökçe A., Koçulu Ö. E. C., KIRLI A., KORU A. T., Tüfekçi C. S.

7th International Conference on Recent Advances in Space Technologies (RAST), 16 - 19 July 2015

XIV. Fuzzy Logic Modeling of Transparent and Elastic Silicone Pad for a New and Novel Optic Based Tactile Sensor

BÜYÜKŞAHİN U., KIRLI A.

14th International Conference On Advances In Materials & Processing Technologies, 16 - 20 November 2014

XV. Multi point, high sensitive tactile sensing module for robots and devices

Büyüksahin U., KIRLI A.

13th IEEE SENSORS Conference, SENSORS 2014, Valencia, Spain, 2 - 05 November 2014, pp.366-369

XVI. Çift Sarkaç Pendubot Sisteminin Dinamik Analizi ve Görüntü Geri Beslemeli Kontrolü

KIRLI A., DEMİR M. H., BÜYÜKŞAHİN U., Tüfekçi C. S., YİĞİT F.

TOK2013: Türkiye Otomatik Kontrol Ulusal Toplantısı Ve Sergisi, Turkey, 26 - 28 September 2013

XVII. Model satellite design for CanSat Competition

Bulut S. N., Beker M., İpek İ. İ., Koçulu Ö. E. C., Dinçer N., KIRLI A., ERTUĞRUL H. F., Tüfekçi C. S.

6th International Conference on Recent Advances in Space Technologies, İstanbul, Turkey, 12 - 14 June 2013, pp.913-917

XVIII. A New Nondestructive Test Equipment Based On Image Processing and Magnetic Flux Analysis

BÜYÜKŞAHİN U., KIRLI A.

11th International Conference On Advances In Materials & Processing Technologies, 14 - 16 July 2011

XIX. Modeling of an Accelerometer Based Inclinator by Artificial Neural Networks

KIRLI A., Aydeniz D., ÖMÜRLÜ V. E.

IEEE International Conference on Mechatronics (ICM), 13 - 15 April 2011

XX. Self tuning fuzzy PD application on TI TMS320F28335 for an experimental stationary quadrotor

KIRLI A., ÖMÜRLÜ V. E., Büyüksahin U., Artar R., Ortak E.

4th European DSP Education and Research Conference, EDERC 2010, Nice, France, 1 - 02 December 2010, pp.42-46

XXI. İnsansız Dört Rotorlu Hava Araçları İçin Değişken Serbestlik Dereceli Yere Sabit Uçuş Kontrol Sistemi

ÖMÜRLÜ V. E., ENGİN Ş. N., KIRLI A., KURTOĞLU S., BÜYÜKŞAHİN U.

TOK'09 Otomatik Kontrol Türk Milli Komitesi, Otomatik Kontrol Ulusal Toplantısı, Turkey, 13 - 16 October 2009

XXII. Düşük Hızlı Darbe Deney Düzeneği İçin Geri Sekme (Rebound) Frenleme Ve Kontrol Sistemi (Rebound Braking And Control System For Low Velocity Impact Test Machine)

Şenel M., KIRLI A., Kurşun A.

International Advanced Technologies Symposium, Karabük, Turkey, 23 March 2009, vol.1, pp.122-125

Supported Projects

KIRLI A., Project Supported by Higher Education Institutions, Elastik Bir Silikon Ped Yardımıyla Kuvvet Algılayıcısının Deplasman Ölçmesini Sağlayacak Prototip Bir Modüler Sistemin Geliştirilmesi ve Gerçekleştirilmesi, 2015 - 2020

KIRLI A., EU Supported Other Project, Development and Enhancement of a Steering Feel Model for SBW Vehicles, 2013 - 2016

BÜYÜKŞAHİN U., KIRLI A., Other International Funding Programs, Robotik Sistemlerde Hissetme ve Algılama, 2013 - 2015

KIRLI A., TUBITAK Project, Multi Point, High Sensitive Tactile Sensing Module for Robots and Devices, 2014 - 2014

KIRLI A., YÜKSEK LİSANS TEZİ : İnsansız Dört Rotorlu Hava Araçları İçin Değişken Serbestlik Dereceli Yere Sabit Uçuş Kontrol Sistemi, 2009 - 2010

KIRLI A., Other International Funding Programs, LİSANS TEZİ : Düşük Hızlı Darbe Deney Düzeneği İçin Geri Sekme (Rebound) Frenleme Ve Kontrol Sistemi (Rebound Braking And Control System For Low Velocity Impact Test Machine), Continues

Activities in Scientific Journals

International Journal of Mechanical Engineering and Applications, Editor, 2018 - Continues

Scientific Refereeing

Modeling and Experimental Investigation of the Maximum Stresses due to Bending in a Tubular-shaped Artificial Skin Sensor, SCI Journal, June 2015

Roughness Evaluation by Wearable Tactile Sensor Utilizing Human Active Sensing , SCI Journal, October 2014

The Effect of Cannulated Hip Screw Size in the Treatment of Femoral Neck Fracture, SCI Journal, July 2013

Scientific Consultations

DOF Robotics, Project Consultancy, Yildiz Technical University, Faculty Of Mechanical Engineering, Mekatronik Müh., Turkey, 2019 - Continues

SETMAR Makine Dış Ticaret Limited Şirketi, Project Consultancy, Yildiz Technical University, Faculty Of Mechanical Engineering, Mekatronik Müh., Turkey, 2019 - Continues

Metrics

Publication: 35

Citation (WoS): 14

Citation (Scopus): 52

H-Index (WoS): 2

H-Index (Scopus): 4

Congress and Symposium Activities

ASME 2017 Dynamic Systems and Control Conference, Attendee, Virginia, United States Of America, 2017

Information, Communication and Automation Technologies (ICAT), 2015 XXV International Conference on, Attendee, Sarajevo, Bosnia And Herzegovina, 2015

IEEE SENSORS 2014, Attendee, Valencia, Spain, 2014

Education and Research Conference (EDERC), 2010 4th European, Attendee, Nice, France, 2010