

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 Teknik Üniversitesi, Faculty of Mechanical Engineering, Makine Mühendisliği, Turkey 2010 - 2015

Post Graduate, İstanbul Teknik Üniversitesi, Makine Fakültesi, Makine Mühendisliği, Turkey 2008 - 2010

Under Graduate, 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 Teknik Üniversitesi, Faculty of Mechanical Engineering, Mekatronik Müh., 2018 - Continues
Research Assistant PhD, Yıldız Teknik Üniversitesi, 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

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- **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 (Journal Indexed in SCI)
- **A low-cost, human-like, high-resolution, tactile sensor based on optical fibers and an image sensor**
Buyuksahin U., Kirli A.
INTERNATIONAL JOURNAL OF ADVANCED ROBOTIC SYSTEMS, vol.15, 2018 (Journal Indexed in SCI)

- **Online optimized hysteresis-based steering feel model for steer-by-wire systems**
KIRLI A., Arslan M. S.
ADVANCES IN MECHANICAL ENGINEERING, vol.8, 2016 (Journal Indexed in SCI)
- **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, pp.247-264, 2013 (Journal Indexed in SCI)
- **A stationary, variable DOF flight control system for an unmanned quadcopter**
ÖMÜRLÜ V. E. , KIRLI A., Buyuksahin U., Engin S. N. , Kurtoglu S.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.19, pp.891-899, 2011 (Journal Indexed in SCI)

Articles Published in Other Journals

- **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 (Refereed Journals of Other Institutions)
- **Design and Simulation of ANFIS Controller for Increasing the Accuracy of Leaf Spring Test Bench**
Üstünişik E., Kırılı A.
Procedia Computer Science, vol.158, pp.169-176, 2019 (Refereed Journals of Other Institutions)
- **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, pp.227-233, 2017 (Journal Indexed in ESCI)
- **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, pp.83-88, 2017 (International Refereed University Journal)
- **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 (Refereed Journals of Other Institutions)
- **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 (Refereed Journals of Other Institutions)

Refereed Congress / Symposium Publications in Proceedings

- **Design and Integration of an Air Releasable Autonomous Unmanned Ground Vehicle**
Okumuş F. F. , Çelikol M., Hasaıcebi İ. C. , Uzunoglu M., KIRLI A.
2019 9th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Turkey, 11 - 14 Haziran 2019, pp.627-633
- **Improvement of the Simulation Model for High Accuracy Leaf Spring Test Bench by Implementing Fuzzy Logic**
Üstünişik E., KIRLI A., Er İ., Erginsoy Y.
International Conference on Intelligent and Fuzzy Systems, İstanbul, Turkey, 23 - 25 Temmuz 2019, pp.1335-1342
- **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 Ekim 2018, pp.491-496
- **Investigating The Effect Of Look-Ahead Distance On Automated Steering Performance**

SEVER M., ZENGİN N., KIRLIA., ARSLAN M. S.

IEEE 6th International Conference on Control Engineering Information Technology, 25 - 27 Ekim 2018, pp.509-515

• **Tam Otonom Araçlarda Zaman Gecikmeli Geri Besleme ve Kararlılık Analizi**

KIRLIA.

OTOMATİK KONTROL TÜRK MİLLÎ KOMİTESİ ULUSAL TOPLANTISI, Turkey, 21 - 23 Eylül 2017, pp.592-597

• **Limitations of torque vectoring as a backup safety strategy for steer-by-wire vehicles due to vehicle stability control**

Kirli A., Okwudire C. E. , Ulsay A. G.

ASME 2017 Dynamic Systems and Control Conference, DSCC 2017, Virginia, United States Of America, 11 - 13 Ekim 2017, vol.1

• **Investigation of Active Suspension Control Strategies Only with Wheel Motion Measurements Delayed Resonator and Ground Hook**

SEVER M., KIRLIA.

International Conference on Advances in Automotive Technologies 2016., 11 - 14 Ekim 2016

• **Steering Feel Design: The Effect of Mass Variation**

KIRLIA., ARSLAN M. S.

7th IFAC Symposium on Mechatronic Systems (MECHATRONICS), Leicester, United Kingdom, 5 - 08 Eylül 2016, vol.49, pp.617-622

• **Optimization of Parameters in the Hysteresis-based Steering Feel Model for Steer-by-Wire Systems**

KIRLIA., Arslan M. S.

14th IFAC Symposium on Control in Transportation Systems (CTS), İstanbul, Turkey, 18 - 20 Mayıs 2016, vol.49, pp.129-134

• **Design and application of an active suspension system on a 6 DOF half vehicle model**

KIRLIA.

25th International Conference on Information, Communication and Automation Technologies, ICAT 2015, Sarajevo, Bosnia And Herzegovina, 29 - 31 Ekim 2015

• **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 Haziran 2015, pp.839-844

• **Model Picosatellite Design for Energy Harvesting and Data Transmission through RF Communication**

Songül G., Yalman A., İlginoğlu A., Gökçe A., Koçulu Ö. E. C. , KIRLIA., KORU A. T. , Tüfekçi C. S.

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

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

BÜYÜKŞAHİN U., KIRLIA.

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

• **Multi point, high sensitive tactile sensing module for robots and devices**

Büyükhahin U., KIRLIA.

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

• **Çift Sarkaç Pendubot Sisteminin Dinamik Analizi ve Görüntü Geri Beslemeli Kontrolü**

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

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

• **Model satellite design for CanSat Competition**

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

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

• **A New Nondestructive Test Equipment Based On Image Processing and Magnetic Flux Analysis**

BÜYÜKŞAHİN U., KIRLIA.

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

• **Modeling of an Accelerometer Based Inclinometer by Artificial Neural Networks**

KIRLIA., Aydeniz D., ÖMÜRLÜ V. E.

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

- **Self tuning fuzzy PD application on TI TMS320F28335 for an experimental stationary quadrotor**

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

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

- **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 Ekim 2009

- **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 Mart 2009, vol.1, pp.122-125

Supported Projects

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

KIRLI A., BÜYÜKŞAHİN U., Other Supported Projects, 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 Supported Projects, 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, 2019 - Continues

SETMAR Makine Dış Ticaret Limited Şirketi, Project Consultancy, 2019 - Continues

Invited 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

Citations

Total Citations (WOS):12

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