

Prof. EMİN FARUK KEÇECİ

Personal Information

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International Researcher IDs

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Education Information

Doctorate, University of Virginia, Elektrik Mühendisliği, United States Of America 1999 - 2003

Postgraduate, Duke University, Makina Mühendisliği, United States Of America 1997 - 1999

Undergraduate, Istanbul Technical University, Makina Fakültesi, Makina Mühendisliği, Turkey 1992 - 1996

Foreign Languages

English, C1 Advanced

Research Areas

Mechanical Engineering, Machine Theory and Dynamics, Robotics, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Abdullah Gul University, Mühendislik Fakültesi, Makina Mühendisliği, 2016 - Continues

Associate Professor, Istanbul Technical University, Makina Fakültesi, Makina Mühendisliği, 2011 - 2016

Assistant Professor, Istanbul Technical University, Makina Fakültesi, Makina Mühendisliği, 2010 - 2011

Assistant Professor, Izmir Institute Of Technology, Faculty Of Engineering, Makina Mühendisliği, 2003 - 2009

Advising Theses

KEÇECİ E. F., 3D Image Recognition in MRI Imaging Data Sets, Doctorate, S.M.(Student), Continues

KEÇECİ E. F., Residential Recycling Sorting Machine, Postgraduate, K.M.(Student), 2016

KEÇECİ E. F., Rough Terrain Robot with a High Jumping Ability, Postgraduate, A.E.(Student), 2016

KEÇECİ E. F., Design and Prototyping of an Autonomous Cleaning Robot, Postgraduate, G.A.(Student), 2012

KEÇECİ E. F., Advanced Control Applications for Rescue Robotics with Off the Shelf Electronics, Postgraduate, B.V. (Student), 2012

KEÇECİ E. F., Finite Element Analysis of a Electrically Driven Vehicle, Postgraduate, E.E.(Student), 2012

KEÇECİ E. F., Design and Manufacturing of a Fireproof Fire Rescue Robot, Postgraduate, T.O.(Student), 2008

KEÇECİ E. F., Wearable Exoskeleton Robot Design and Prototyping, Postgraduate, G.V.(Student), 2007

KEÇECİ E. F., Mechatronic Design of a Completely Mechanical Quick-changeable Joint for Multi Purpose Explosive Ordnance Disposal Robots, Postgraduate, K.M.(Student), 2006

KEÇECİ E. F., Design and Prototyping of a Mechatronic System as a Drag Reduction Device for Busses, Postgraduate, K.G. (Student), 2006

KEÇECİ E. F., Design of a Rescue Robot for Search and Mapping Operation, Postgraduate, A.D.(Student), 2006

KEÇECİ E. F., Autonomous Solid Waste Separation System Design, Postgraduate, P.O.(Student), 2006

KEÇECİ E. F., Mechatronic Design of an Explosive Ordnance Disposal Robot, Postgraduate, T.O.(Student), 2005

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Three dimensional patient-specific guides for guide pin positioning in reverse shoulder arthroplasty: An experimental study on different glenoid types**
Sadeghi M. M., KEÇECİ E. F., KAPICIOĞLU M., Aralasmak A., Tezgel O., BAŞARAN M. A., YILDIZ F., Bilsel K.
JOURNAL OF ORTHOPAEDIC SURGERY, vol.30, no.1, 2022 (SCI-Expanded)
- II. **Image processing methodology for patient-specific instrument design**
Mohammad Sadeghi M., KEÇECİ E. F.
INTERNATIONAL JOURNAL OF MEDICAL ROBOTICS AND COMPUTER ASSISTED SURGERY, vol.16, no.6, pp.1-11, 2020 (SCI-Expanded)
- III. **Design and prototype of mobile robots for rescue operations**
Kececi E. F.
ROBOTICA, vol.27, pp.729-737, 2009 (SCI-Expanded)
- IV. **Completely mechanical quick changeable joints for multipurpose explosive ordnance disposal robots**
Kececi E. F.
ROBOTICA, vol.27, pp.555-565, 2009 (SCI-Expanded)
- V. **FIREPROOFING THE Firefighting Robot**
Kececi F.
PHOTONICS SPECTRA, vol.43, no.6, pp.43-50, 2009 (SCI-Expanded)
- VI. **Adaptive actuator failure compensation for redundant manipulators**
Kececi E. F., Tang X., Tao G.
ROBOTICA, vol.27, pp.19-28, 2009 (SCI-Expanded)
- VII. **Adaptive vehicle skid control**
Kececi E. F., TAO G.
Mechatronics, vol.16, no.5, pp.291-301, 2006 (SCI-Expanded)
- VIII. **An intelligent robotic walker: Mechanical design and control system**
Kececi E. F., TAO G.
ASME International Mechanical Engineering Congress and Exposition, Proceedings, pp.795-802, 2002 (SCI-Expanded)

Articles Published in Other Journals

- I. **Makerspace: Innovation in Mechanical Engineering Education**
BENGÜ E., KEÇECİ E. F.
Yükseköğretim ve Bilim Dergisi, vol.11, no.1, pp.207-213, 2021 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **Mechatronic Components: Roadmap to Design**
KEÇECİ E. F.
Elsevier Science, Oxford/Amsterdam , Ny, 2018
- II. **Self Stabilizing Platform for Rescue Robots with Off the Shelf Electronics**

KEÇECİ E. F., Bükey V.

LAP Lambert, 2017

III. Wired Autonomous Vacuum Cleaner

KEÇECİ E. F.

in: Mechatronics and Robotics Engineering for Advanced and Intelligent Manufacturing, Zhang D., Wei B., Editor, Springer, Bern, pp.167-175, 2017

IV. Mobile Robots for Dynamic Environments

KEÇECİ E. F., Ceccarelli M.

Asme, New York, 2015

V. Design and prototypes of mobile robots

KEÇECİ E. F., Ceccarelli M.

Asme, New York, 2015

VI. Designs and Prototypes of Mobile Robots

KEÇECİ E. F., Marco C.

ASME, 2015

VII. Mobile Robots for Dynamic Environments

KEÇECİ E. F., Marco C.

ASME Press, 2015

VIII. Design issues for mechanical structures

KEÇECİ E. F.

in: Design and Prototypes of Mobile Robots, Kecci E.F., Ceccarelli M., Editor, Asme, Abd, pp.79-97, 2015

IX. Safer and Faster Humanitarian Demining with Robots

KEÇECİ E. F.

in: Service Robots and Robotics: Design and Application, Abelbeck H., Gallagher E., Editor, Igi Global, Hershey, pp.176-190, 2012

X. PIC Mikrokontrolörlerle Robotik ve Otomasyon Uygulamaları ve Gömülü Elektronik Devre Tasarımı

KEÇECİ E. F.

Tmmob Elektrik Mühendisleri Odası Yayınları, Ankara, 2008

Refereed Congress / Symposium Publications in Proceedings

I. Recycling of Paraffin Used for Aluminum Wire Twisting

KEÇECİ E. F.

3rd International Conference on Material Science and Technology, 2018, 17 - 19 September 2018

II. Biomedical Image Processing Software Development for Shoulder Arthroplasty: ShoulderArt

KEÇECİ E. F.

ICCTD 2018, 24 - 26 March 2018

III. Shoulder Surgery Accuracy Improvement with Image Processing

KEÇECİ E. F.

10th Shoulder and Elbow Surgery Congress, Turkey, 21 - 24 March 2018

IV. Off-the-Shelf Electronics in Rescue Robotics

KEÇECİ E. F.

International Conference on Mechatronics Systems and Control Engineering 2018, 21 - 23 February 2018

V. Ortopedi Robot Kullanımı

KEÇECİ E. F.

Ulusal Ortopedi Toplantısı, Turkey, 12 - 14 January 2018

VI. Localization of an Autonomous Personnel Carrying Vehicle in Indoor Environments

ALTUĞ E., Gelbal Ş. Y., KEÇECİ E. F., Gültekin K.

Proceedings of the 2017 International Conference on Mechatronics Systems and Control Engineering - ICMSCE 'xx17, Kayseri, Turkey, 2 - 04 February 2017

- VII. **Finding Glenoid Surface on Scapula in 3D Medical Images for Shoulder Joint Implant Operation Planning**
Sadeghi M., KEÇECİ E. F.
ICMV 9th International Conference on Machine Vision, 18 - 20 November 2016
- VIII. **Finding Glenoid Surface on Scapula in 3D Medical Images for Shoulder Joint Implant Operation Planning-3D OCR**
Sadeghi M. M., Kececi E. F., Bilisel K., Aralasmak A.
9th International Conference on Machine Vision (ICMV), Nice, France, 18 - 20 November 2016, vol.10341
- IX. **Hybrid Power System for Mobile Robotics**
Sadeghi M. M., Kececi E. F.
International Conference on System Reliability and Science (ICSRS), Paris, France, 15 - 18 November 2016, pp.64-67
- X. **Design and HIL Setup of an Autonomous Vehicle for Crowded Environments**
KEÇECİ E. F.
2016 IEEE INTERNATIONAL CONFERENCE ON ADVANCED INTELLIGENT MECHATRONICS (AIM), Banff, Canada, 12 - 15 July 2016
- XI. **Design and implementation of self-balancing camera platform for a mobile robot**
Bukey M. V., Kececi E. F., ARISOY A.
20th CISM-IFTOMM Symposium on Theory and Practice of Robots and Manipulators, ROMANSY 2014, Moscow, Russia, 23 - 26 June 2014, vol.22, pp.555-562

Supported Projects

KEÇECİ E. F., Industrial Thesis Project, Design and Prototyping of a Wired Vacuum Cleaning Robot, 2013 - 2015
KEÇECİ E. F., TUBITAK Project, Development of Smart Autonomous Human Carrying Vehicles, 2012 - 2015
KEÇECİ E. F., TUBITAK Project, Adaptive Skid Control of an Omnidirectional Robot, 2010 - 2012
KEÇECİ E. F., TUBITAK Project, Development of a Drive System with a Cycle Skip for an Internal Combustion Engine, 2009 - 2011
KEÇECİ E. F., Project Supported by Other Official Institutions, Design and Manufacturing of Wearable Exoskeleton Robot, 2006 - 2008
KEÇECİ E. F., Project Supported by Other Official Institutions, Design and Prototyping of a Fireproof Fire Fighting Robot, 2005 - 2007
KEÇECİ E. F., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, Mechatronic Design of a Completely Mechanical Quick-changeable Joint for Multipurpose Explosive Ordnance Disposal Robots, 2003 - 2005
KEÇECİ E. F., TUBITAK Project, Explosive Ordnance Disposal Robot Design and Prototype Manufacturing, 2002 - 2004

Activities in Scientific Journals

Robotica Journal, Committee Member, 2011 - 2015

Metrics

Publication: 30
Citation (WoS): 22
Citation (Scopus): 39
H-Index (WoS): 2
H-Index (Scopus): 4

Congress and Symposium Activities

An Open Software Open Hardware Hexapod Robot Platform for Robotic Education, Attendee, Turkey, 2016
Wired Autonomous Vacuum Cleaner, Attendee, Nice, France, 2016
Electronics of a Holonomic Rescue Robot with a Screw Drive Mechanism for Soft Terrain Mobility, Attendee, Konya, Turkey, 2016
Hybrid Power System for Mobile Robotics, Attendee, Paris, France, 2016
Mechanical Design of a Wearable Exoskeleton Robot, Attendee, İstanbul, Turkey, 2016
Finding Glenoid Surface on Scapula in 3D Medical Images for Shoulder Joint Implant Operation Planning, Attendee, Nice, France, 2016
Electronic Hardware and Control of a Wearable Exoskeleton Robot, Attendee, İstanbul, Turkey, 2016
Identification of design parameters of a Portable Robot for Urban EOD Operations, Attendee, Ankara, Turkey, 2014
Design and Implementation of a Self-Balancing Camera Platform, Attendee, Moskva, Russia, 2014
Layering: An Additive Manufacturing Method for Functional Parts, Attendee, İzmir, Turkey, 2014
Initial Experience Designing and Manufacturing Custom Radiosurgery Phantom Components Using Rapid Prototyping Technology, Attendee, Stockholm, Sweden, 2014
Self Balancing Camera Platform Design and Application for a Mobile Robot, Attendee, Malatya, Turkey, 2013
Cloud Manufacturing in Healthcare: A Gamma Knife Center Experience, Attendee, Wisconsin, United States Of America, 2013
Rescue Robots: Supporting Adaptive Navigation, Attendee, İstanbul, Turkey, 2012
Dynamics and Controller Design of a Screw Wheel Drive Holonomic Rescue Robot, Attendee, Texas, United States Of America, 2012
Advanced All-Terrain Autonomous Systems, Attendee, İzmir, Turkey, 2010
Portable Robot Usage in the Soldier Modernization Program, Attendee, Ankara, Turkey, 2010
A Diagnostic and Calibration card for Robotic Applications, Attendee, İstanbul, Turkey, 2008
Task Space Control of an Explosive Ordnance Disposal Robot, Attendee, Turkey, 2005
Actuator Failure Compensation for Concurrently Actuated Manipulators, Attendee, Washington, United States Of America, 2003
Actuator Failure Compensation for Cooperating Multiple Manipulator Systems, Attendee, Washington, United States Of America, 2003
An Intelligent Robotic Walker: Mechanical Design and Control System, Attendee, New York, United States Of America, 2002
Adaptive Actuator Failure Compensation for a Platform Manipulator, Attendee, İstanbul, Turkey, 2002

Awards

KEÇECİ E. F., one of the 8 faculty members out of 1237, Innovation Fair 2013, January 2013
KEÇECİ E. F., Scholarship for visiting scholar study at University of Virginia, YÖK, January 2013
KEÇECİ E. F., 2005-2010 yılları arasındaki 6000 projenin içerisinde en iyi 150 tanesinden biri, TUBITAK, January 2011

Non Academic Experience

Business Establishment Private, Otokar A. Ş.