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Personal Information

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Education Information

Doctorate, Texas Üniversitesi, Elektrik Mühendisliği, Elektrik Mühendisliği, Turkey 1992 - Continues

Case Western Reserve Üniversitesi, Elektrik Mühendisliği Ve Uygulamalı Fizik, Elektrik Mühendisliği Ve Uygulamalı Fizik, Turkey 1989 - Continues

Under Graduate, İstanbul Teknik Üniversitesi, Elektrik Ve Elektronik, Elektronik Ve Haberleşme, Turkey 1982 - Continues

Foreign Languages

English, C1 Advanced

Spanish, B2 Upper Intermediate

Dissertations

Doctorate, Nonlinear Systems Control Using Neural Networks, The University Of Texas At Arlington, Electrical Engineering, Electrical Engineering, 1994

Post Graduate, Multirate System Identification and Adaptive Control, Case Western Reserve University, Electrical Engineering And Applied Physics, Electrical Engineering And Applied Physics, 1992

Research Areas

Information Systems, Communication and Control Engineering, Control and System Engineering, Simulation, Modelling and Identification, Nonlinear Systems, Status Observers and Estimation, Robotics and Mechatronics Systems, Smart Factors, Mechatronic Systems, Route and Motion Planning, Mechanical Engineering, Machine Theory and Dynamics, Robotics, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Yıldız Teknik Üniversitesi, Department of Mechatronics Engineering, Mechatronics, 2014 - Continues

Advising Theses

YEŞİLDİREK A., Modelling and Control of Autonomous Underwater Vehicles (AUVs), Post Graduate, A.Yalman(Student), 2017

YEŞİLDİREK A., ADAPTIVE AND ROBUST CONTROL OF BIPED ROBOTS, Post Graduate, K.Müderrişoğlu(Student), 2016

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

- I. **Adaptive feedback linearization using efficient neural networks**
Yesildirek A., LEWIS F.
JOURNAL OF INTELLIGENT & ROBOTIC SYSTEMS, vol.31, pp.253-281, 2001 (Journal Indexed in SCI)
- II. **Robust force/motion control of constrained robots using neural network**
Kwan C., Yesildirek A., Lewis F.
JOURNAL OF ROBOTIC SYSTEMS, vol.16, pp.697-714, 1999 (Journal Indexed in SCI)
- III. **A neural network controller for flexible-link robots**
Yesildirek A., Vandegrift M., Lewis F.
JOURNAL OF INTELLIGENT & ROBOTIC SYSTEMS, vol.17, pp.327-349, 1996 (Journal Indexed in SCI)
- IV. **Multilayer neural-net robot controller with guaranteed tracking performance**
LEWIS F., Yesildirek A., LIU K.
IEEE TRANSACTIONS ON NEURAL NETWORKS, vol.7, pp.388-399, 1996 (Journal Indexed in SCI)
- V. **NEURAL-NET ROBOT CONTROLLER WITH GUARANTEED TRACKING PERFORMANCE**
LEWIS F., LIU K., YESILDIREK A.
IEEE TRANSACTIONS ON NEURAL NETWORKS, vol.6, pp.703-715, 1995 (Journal Indexed in SCI)
- VI. **NEURAL-NET ROBOT CONTROLLER - STRUCTURE AND STABILITY PROOFS**
LEWIS F., YESILDIREK A., LIU K.
JOURNAL OF INTELLIGENT & ROBOTIC SYSTEMS, vol.12, pp.277-299, 1995 (Journal Indexed in SCI)
- VII. **Feedback linearization using neural networks**
Yeşildirek A., Lewis F.
Automatica, vol.31, pp.1659-1664, 1995 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **GERİ DÖNÜŞÜMLÜ YAPAY SİNİR AĞI TABANLI T DALGASI SONU TESPİTİ**
İŞCAN M., YEŞİLDİREK A.
Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, 2020 (Refereed Journals of Other Institutions)
- II. **Attitude and Heading Reference System Design with Sensor Fusion Algorithms**
YEŞİLDİREK A., Oben Ö.
Bayburt Üniversitesi Fen Bilimleri Dergisi, vol.2, 2019 (Other Refereed National Journals)
- III. **Controlling a VTOL in 2-DOF Subspaces**
Emran B., YEŞİLDİREK A.
International Journal of Materials, Mechanics and Manufacturing, vol.2, pp.187-192, 2014 (Refereed Journals of Other Institutions)
- IV. **Robust Nonlinear Composite Adaptive Control of Quadrotor**
Emran B., YEŞİLDİREK A.
International Journal of Digital Information and Wireless Communications, vol.4, pp.45-57, 2014 (Refereed Journals of Other Institutions)
- V. **Design and Development of a Networked Control System Platform for Unmanned Aerial Vehicles**
Tas Y., YEŞİLDİREK A., Sertbas A.
Journal of Emerging Trends in Computing and Information Sciences, vol.4, pp.9-16, 2013 (Refereed Journals of Other Institutions)
- VI. **Controlling a VTOL in 2-DOF SubspacesDOI: 10.7763/IJMMM.2014.V2.125**
YEŞİLDİREK A., Emran B.
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Books & Book Chapters

- I. **Neural Network Control of Robot Manipulators and Nonlinear Systems**
Yeşildirek A.
in: Neural Systems for Control, Omidvar O., Elliott D.L., Editor, Academic Press, Massachusetts, pp.161-212, 1999
- II. **Neural network control of robot manipulators and non linear systems**
Fl L., Jagannathan S., Yeşildirek A.
CRC, New York, Massachusetts, 1998

Refereed Congress / Symposium Publications in Proceedings

- I. **Control of Autonomous Mobile Robots using Reinforcement Learning**
Engin D., YEŞİLDİREK A.
Ereğli International Science and Academic Congress, Turkey, 9 - 10 March 2019
- II. **İNSANSIZ HAVA ARAÇLARINDA GÖRÜNTÜ İŞLEME TABANLI İNİŞ SİSTEMİ TASARIMI VE GERÇEKLEMESİ**
Vurgun A., YEŞİLDİREK A.
UBAK2019, Turkey, 14 - 17 February 2019, pp.251-261
- III. **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
- IV. **R-R-R ROBOT CONTROL WITH ADAPTIVE LAYER NUMBER NEURAL-NETWORK + PD CONTROLLER**
Altınışık Ö., YEŞİLDİREK A.
International Conference on Materials Science, Mechanical and Automotive Engineerings and Technology, İzmir, Turkey, 10 April 2018, pp.631-637
- V. **Decoupled Nonlinear Control Design and Simulation of Torpedo Shaped Autonomous Underwater Vehicles (AUVs)**
Yalman A., YEŞİLDİREK A.
2nd International Conference on Engineering Technology and Applied Sciences, Cluj Napoca, Romania, 20 April 2017, pp.1-6
- VI. **İki Ayaklı Bir Alt Uzvuun Yürüyüş Düzeninin Olusturulması ve Kontrolü**
Müderrişoğlu k., YEŞİLDİREK A.
Türkiye Robot Bilim Konferans, İstanbul, Turkey, 2 - 03 November 2016
- VII. **Defining and Controlling Gait Cycle for Biped Walking in Sagittal Plane**
Müderrişoğlu K., YEŞİLDİREK A.
ICENS – International Conference On Engineering And Natural Science, Sarajevo, Bosnia And Herzegovina, 24 May 2016, pp.1-6
- VIII. **Defining and Controlling Gait Cycle for Biped Walking in Sagittal Plane 24 28 May 2016 Sarajevo Bosnia**
Muderrisoglu K., YEŞİLDİREK A.
ICENS, International Conference On Engineering And Natural Science, 24 - 28 May 2016
- IX. **Designing and modeling of a point absorber wave energy converter with hydraulic power take-off unit**
ENGIN C. D. , YEŞİLDİREK A.
4th International Conference on Electric Power and Energy Conversion Systems, EPECS 2015, Sharjah, United Arab Emirates, 24 - 26 November 2015
- X. **Control of A Cantilever Pipe Conveying Fluid using Neural Network**
Demir M. H. , YEŞİLDİREK A., Yigit F.
6th International Conference on Modeling, Simulation, and Applied Optimization (ICMSAO), İstanbul, Turkey, 27 -

29 May 2015

- XI. **Nonlinear Control of Quadrotor Using Multi Lyapunov Functions**
Yesildirek A., IMRAN B.
American Control Conference, Oregon, United States Of America, 4 - 06 December 2014, pp.3844-3849
- XII. **Nonlinear Composite Adaptive Control for Quadrotor Copter**
IMRAN B., YEŞİLDİREK A.
2013 EEECEGC, Dubai, United Arab Emirates, 11 December 2013, pp.1-6
- XIII. **Remote monitoring of power system apparatus in the context of smart grid**
QASIM M., HODA S., AL ZAABI M., MAHDI N., GOPAKUMAR G., ABU RAHMA S., EL-HAG A., Yesildirek A.
2012 8th International Symposium on Mechatronics and its Applications, ISMA 2012, Sharjah, United Arab Emirates, 10 - 12 April 2012
- XIV. **A Cost Effective Trigger Circuit for an On-line Multi-sensor Partial Discharge Monitoring System**
AL ZAABI M., SALAH M., QASIM M., EL-HAG A., Yesildirek A.
IEEE International Symposium on Electrical Insulation (ISEI), San Juan, Argentina, 10 - 13 June 2012, pp.104-107
- XV. **Development of a Networked Control System Platform for Unmanned Aerial Vehicles**
Tas Y., Yesildirek A., Sertbas A.
International Conference on Computer Systems and Industrial Informatics (ICCSII), Sharjah, United Arab Emirates, 18 - 20 December 2012
- XVI. **Anti-swing control of underactuated overhead crane system using multiple Lyapunov functions**
Yesildirek A.
2011 IEEE International Conference on Mechatronics and Automation, ICMA 2011, Beijing, China, 7 - 10 August 2011, pp.428-432
- XVII. **System identification of UAV under an autopilot trajectory using ARX and hammerstein-wiener methods**
KHALIL B., Yesildirek A.
7th International Symposium on Mechatronics and its Applications, ISMA'10, Sharjah, United Arab Emirates, 20 - 22 April 2010
- XVIII. **Intelligent Control of Overhead Gantry Cranes**
Yesildirek A.
6th International Symposium on Mechatronics and its Applications, Sharjah, United Arab Emirates, 23 - 26 March 2009, pp.29-34
- XIX. **Fractal dimension and similarity search in high-dimensional spatial databases**
MALCOK M., ASLANDOGAN Y. A. , Yesildirek A.
IEEE International Conference on Information Reuse and Intergration (IRI 2006), Hawaii, United States Of America, 16 - 18 September 2006, pp.380-381
- XX. **Neural net controller for robots with hebbian tuning and guaranteed tracking**
Yesildirek A., Lewis F.
Proceedings of the 1995 American Control Conference. Part 1 (of 6), Seattle, WA, USA, 21 - 23 June 1995, vol.4, pp.2784-2789
- XXI. **Robust force/motion control of flexible-joint robots using neural networks**
KWAN C., YESILDIREK A., LEWIS F.
1995 American Control Conference, Washington, United States Of America, 21 - 23 June 1995, pp.4460-4465
- XXII. **A neural net controller for robots with Hebbian tuning and guaranteed tracking**
YESILDIREK A., LEWIS F.
1995 American Control Conference, Washington, United States Of America, 21 - 23 June 1995, pp.2784-2789
- XXIII. **Neural network controller for flexible-link robots**
Yesildirek A., Vandegrift M., Lewis F.
Proceedings of the 1994 IEEE International Symposium on Intelligent Control, Columbus, OH, USA, 16 - 18 August 1994, pp.63-68
- XXIV. **Neural network controller for feedback linearization**
Yesildirek A., Lewis F.

Proceedings of the 2nd IEEE International Symposium on Requirements Engineering, York, Sierra Leone, 27 - 29 March 1995, vol.3, pp.2494-2499

- XXV. **A NEURAL NETWORK CONTROLLER FOR FEEDBACK LINEARIZATION**
YESILDIREK A., LEWIS F.
33rd IEEE Conference on Decision and Control, Florida, United States Of America, 14 - 16 December 1994, pp.2494-2499
- XXVI. **A NEURAL-NETWORK CONTROLLER FOR FLEXIBLE-LINK ROBOTS**
YESILDIREK A., VANDEGRIFT M., LEWIS F.
1994 IEEE International Symposium on Intelligent Control, Ohio, United States Of America, 16 - 18 August 1994, pp.63-68
- XXVII. **FEEDBACK LINEARIZATION USING NEURAL NETWORKS**
YESILDIREK A., LEWIS F.
1994 IEEE International Conference on Neural Networks (ICNN 94) - 1st IEEE World Congress on Computational Intelligence, Florida, United States Of America, 26 - 29 June 1994, pp.2539-2544
- XXVIII. **ROBUST FORCE MOTION CONTROL OF CONSTRAINED ROBOTS USING NEURAL NETWORK**
KWAN C., YESILDIREK A., LEWIS F.
33rd IEEE Conference on Decision and Control, Florida, United States Of America, 14 - 16 December 1994, pp.1862-1867
- XXIX. **NEURAL-NET ROBOT CONTROLLER - STRUCTURE AND STABILITY PROOFS**
LEWIS F., YESILDIREK A., LIU K.
32nd IEEE Conference on Decision and Control, San-Antonio, Northern Mariana Islands, 15 - 17 December 1993, pp.2785-2791
- XXX. **Neural net robot controller with guaranteed stability**
Lewis F., Yesildirek A., Liu K.
3rd International Conference on Industrial Fuzzy Control and Intelligent Systems, IFIS 1993, Texas, United States Of America, 1 - 03 December 1993, pp.103-108
- XXXI. **NEURAL-NET ROBOT CONTROLLER WITH GUARANTEED TRACKING PERFORMANCE**
LEWIS P., LIU K., YESILDIREK A.
1993 IEEE International Symposium on Intelligent Control, Illinois, United States Of America, 25 - 27 August 1993, pp.225-231

Expert Reports

- I. **Yeniköy ve Kemerköy Termal Enerji Santrallerinin Rehabilitasyonu Projesi Bilirkişi Raporu**
Yeşildirek A.
Emerson Automation Solutions, pp.7, İstanbul, 2018

Supported Projects

YEŞİLDİREK A., Project Supported by Other Official Institutions, Yapay Zeka Kullanımı ile Depo Envanter Kontrolü için Otonom Hava Aracı Tasarımı, 2019 - Continues

YEŞİLDİREK A., TUBITAK Project, Yapay Zeka Algoritması ile EMG kontrollü protez kol tasarımı", 2019 - Continues

YEŞİLDİREK A., TUBITAK Project, Otomatik Yönlendirmeli Araç, 2018 - Continues

YEŞİLDİREK A., TUBITAK Project, ADAS için kamera tabanlı nesne tanımlama ve çevre haritalama, 2018 - Continues

YEŞİLDİREK A., TUBITAK Project, ARAÇLARDA GÖRÜNTÜ TABANLI ŞERİT TAKİP SİSTEMİNİN YAPAY ZEKAYLA GELİŞTİRİLMESİ, 2018 - 2019

YEŞİLDİREK A., TUBITAK Project, GPS/INS Entegrasyonu, 2018 - 2018

YEŞİLDİREK A., TUBITAK Project, Sivil ve Taktik/Navigasyon Askeri Uygulamalar için MEMS Tabanlı GPS Destekli Ataletsel Navigasyon Sisteminin Geliştirilmesi, 2017 - 2018

YEŞİLDİREK A., YILMAZ C., Project Supported by Higher Education Institutions, İnsansız Hava Araçları için Otopilot Tasarımı Platformu Geliştirilmesi, 2016 - 2018
YEŞİLDİREK A., TUBITAK Project, Uzaktan kontrollü 5 eksenli router tasarımı, 2016 - 2017
YEŞİLDİREK A., TUBITAK Project, El hareketlerini sensör eldivenle algılayan sistem tasarımı, 2014 - 2015
YEŞİLDİREK A., TUBITAK Project, Enerji şamandırası tasarımı ve gerçekleştirilmesi, 2014 - 2015

Activities in Scientific Journals

Ömer Halisdemir Üniversitesi Online Dergi Sistemi, Editor, 2016 - Continues

Scientific Refereeing

TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES, National Scientific Refreed Journal, May 2018
Pamukkale Üniversitesi Mühendislik Bilimleri Dergisi Yayın Kurulu, National Scientific Refreed Journal, February 2018
TUBITAK Project, October 2017
TUBITAK Project, June 2017

Citations

Total Citations (WOS):1333
h-index (WOS):10

Awards

Yeşildirek A., Emeç C., Sarıözkan Ş., Şahin H., Tübitak 2242 Üniversite öğrenci projeleri İstanbul Bölgesi yarışması 2019, Tübitak, June 2019
Yeşildirek A., Obaid N., Ali ., Mahmoud R. O. , Nabtiti M., 2014 ImagineCup UAE , Microsoft, May 2014
Yeşildirek A., Vandigrift M., Lewis F., 1997 best paper award, Automation And Robotics Research Institute, Ft. Worth, Tx, May 1997
Yeşildirek A., Lewis F., 1996 best patent award, 11) Automation And Robotics Research Institute, Ft. Worth, May 1995