

Assoc. Prof. Tufan Kumbasar

Personal Information

Email: kumbasart@itu.edu.tr

Web: <http://web.itu.edu.tr/kumbasart/>

Biography

TUFAN KUMBASAR is an Associate Professor in the Department of Control and Automation and the Vice Dean of Faculty of Electrical and Electronics Engineering, Istanbul Technical University, Turkey. He is also the director of the Artificial Intelligence and Intelligent Systems (AI2S) Laboratory at the Istanbul Technical University. His major research interests are in computational intelligence, notably type-2 fuzzy systems, fuzzy logic, neural networks, evolutionary algorithms and control theory. Dr. Kumbasar is also interested in process control, robotics and intelligent control and their real-world applications. His major research interests are in computational intelligence, notably type-2 fuzzy systems, fuzzy control, neural networks, evolutionary algorithms and control theory. He is also interested in process control, robotics, intelligent control and their real-world applications. Dr. Kumbasar has currently authored more than 100 peer-reviewed papers in international journals, conferences and book chapters. Dr. Kumbasar received the Best Paper Award from the IEEE International Conference on Fuzzy Systems in 2015 and from the 6th International Conference on Control Engineering & Information Technology. He has participated in leading positions in many national and international projects as principal, main investigator, researcher and academic consultant. He also works as a peer reviewer for more than 40 international journals such as IEEE Transactions on Fuzzy Systems, IEEE Transaction on Industrial Electronics and Applied Soft Computing. Dr. Kumbasar has been an Associate Editor for the IEEE Transactions on Fuzzy Systems and Area Editor for the International Journal of Approximate Reasoning. He has also served as a Publication Co-Chair, Panel Session Co-Chair, Special Session Co-Chair, PC, IPC and TPC in various international and national conferences.

Education Information

Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Kontrol Ve Otomasyon Mühendisliği (Dr), Turkey 2008 - 2012

Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Kontrol Ve Otomasyon Mühendisliği (YI) (Tezli), Turkey 2006 - 2008

Undergraduate, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Kontrol Ve Otomasyon Mühendisliği Bölümü, Turkey 2002 - 2006

Foreign Languages

English

Dissertations

Doctorate, Type-2 fuzzy model inversion methods and fuzzy model based controller design, İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Kontrol Ve Otomasyon Mühendisliği (Dr), 2012

Postgraduate, Ters bulanık model alma yöntemleri, İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Kontrol Ve Otomasyon Mühendisliği (YI) (Tezli), 2008

Research Areas

Information Systems, Communication and Control Engineering, Control and System Engineering, Controllers, Optimal Control, Robotics and Mechatronics Systems, Smart Factors, Engineering and Technology

Academic Titles / Tasks

Associate Professor, Istanbul Technical University, Elektrik-Elektronik, Kontrol Ve Otomasyon Mühendisliği, 2018 - Continues

Assistant Professor, Istanbul Technical University, Elektrik-Elektronik, Kontrol Ve Otomasyon Mühendisliği, 2014 - 2018

Research Assistant, Istanbul Technical University, Elektrik-Elektronik, Kontrol Ve Otomasyon Mühendisliği, 2007 - 2014

Academic and Administrative Experience

İstanbul Teknik Üniversitesi, 2017 - Continues

İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Kontrol Ve Otomasyon Mühendisliği Bölümü, 2016 - Continues

Courses

OTOMATİK KONTROL SİSTEMLERİ, Undergraduate, 2016 - 2017

PROCESS CONTROL, Undergraduate, 2014 - 2015, 2015 - 2016, 2016 - 2017

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

- I. **Deep learning frameworks to learn prediction and simulation focused control system models**
Tuna T., Beke A., Kumbasar T.
APPLIED INTELLIGENCE, 2021 (Journal Indexed in SCI)
- II. **Towards Systematic Design of General Type-2 Fuzzy Logic Controllers: Analysis, Interpretation, and Tuning**
Sakalli A., Kumbasar T., Mendel J. M.
IEEE TRANSACTIONS ON FUZZY SYSTEMS, vol.29, no.2, pp.226-239, 2021 (Journal Indexed in SCI)
- III. **Interval Type-2 Fuzzy Cognitive Map-Based Flight Control System for Quadcopters**
Amirkhani A., Shirzadeh M., Kumbasar T.
INTERNATIONAL JOURNAL OF FUZZY SYSTEMS, vol.22, no.8, pp.2504-2520, 2020 (Journal Indexed in SCI)
- IV. **A new fractional-order general type-2 fuzzy predictive control system and its application for glucose level regulation**
Mohammadzadeh A., Kumbasar T.
APPLIED SOFT COMPUTING, vol.91, 2020 (Journal Indexed in SCI)
- V. **Optimal PID control of spatial inverted pendulum with big bang-big crunch optimization**
Wang J., Kumbasar T.
IEEE-CAA JOURNAL OF AUTOMATICA SINICA, vol.7, no.3, pp.822-832, 2020 (Journal Indexed in SCI)
- VI. **Adaptive backstepping controller design for MIMO cancer immunotherapy using Laguerre polynomials**
Zirkohi M. M. , Kumbasar T.
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, vol.357, no.8, pp.4664-4679, 2020 (Journal Indexed in SCI)
- VII. **Design and development of FOLLY: A self-foldable and self-deployable quadcopter**
Tuna T., Ovrur S. E. , Gokbel E., Kumbasar T.

AEROSPACE SCIENCE AND TECHNOLOGY, vol.100, 2020 (Journal Indexed in SCI)

- VIII. **Type-2 Fuzzy Logic-Based Linguistic Pursuing Strategy Design and Its Deployment to a Real-World Pursuit Evasion Game**
Beke A., Kumbasar T.
IEEE TRANSACTIONS ON CYBERNETICS, vol.50, no.1, pp.211-221, 2020 (Journal Indexed in SCI)
- IX. **A Deep Learning-Based Pipeline for Teaching Control Theory: Transforming Feedback Control Systems on Whiteboard Into MATLAB**
Erdem D., Beke A., Kumbasar T.
IEEE ACCESS, vol.8, pp.84631-84641, 2020 (Journal Indexed in SCI)
- X. **A fuzzy logic-based autonomous car control system for the JavaScript Racer game**
Etlik U. B. , Korkmaz B., Beke A., Kumbasar T.
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, 2019 (Journal Indexed in SCI)
- XI. **Learning with Type-2 Fuzzy activation functions to improve the performance of Deep Neural Networks**
Beke A., Kumbasar T.
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, vol.85, pp.372-384, 2019 (Journal Indexed in SCI)
- XII. **Current development on using Rotary Inverted Pendulum as a benchmark for testing linear and nonlinear control algorithms**
Hamza M. F. , Yap H. J. , Choudhury I. A. , Isa A. I. , Zimit A. Y. , Kumbasar T.
MECHANICAL SYSTEMS AND SIGNAL PROCESSING, vol.116, pp.347-369, 2019 (Journal Indexed in SCI)
- XIII. **Big Bang-Big Crunch optimized hierarchical sliding-mode control of X-Z inverted pendulum**
Wang J., Kumbasar T.
SIMULATION MODELLING PRACTICE AND THEORY, vol.86, pp.25-35, 2018 (Journal Indexed in SCI)
- XIV. **A survey on advancement of hybrid type 2 fuzzy sliding mode control**
HAMZA M. F. , YAP H. J. , CHOUDHURY I. A. , CHİROMA H., Kumbasar T.
NEURAL COMPUTING & APPLICATIONS, vol.30, no.2, pp.331-353, 2018 (Journal Indexed in SCI)
- XV. **Type-2 Fuzzy Logic Controllers Made Even Simpler: From Design to Deployment for UAVs**
Sarabakha A., Fu C., Kayacan E., Kumbasar T.
IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, vol.65, no.6, pp.5069-5077, 2018 (Journal Indexed in SCI)
- XVI. **An inverse controller design method for interval type-2 fuzzy models**
Kumbasar T., EKSİN İ., GÜZELKAYA M., Yesil E.
SOFT COMPUTING, vol.21, no.10, pp.2665-2686, 2017 (Journal Indexed in SCI)
- XVII. **HYBRID ADAPTIVE TYPE-2 FUZZY TRACKING CONTROL OF CHAOTIC OSCILLATION DAMPING OF POWER SYSTEMS**
Zirkohi M. M. , Kumbasar T., Lin T.
ASIAN JOURNAL OF CONTROL, vol.19, no.3, pp.1114-1125, 2017 (Journal Indexed in SCI)
- XVIII. **Revisiting Karnik-Mendel Algorithms in the framework of Linear Fractional Programming**
Kumbasar T.
INTERNATIONAL JOURNAL OF APPROXIMATE REASONING, vol.82, pp.1-21, 2017 (Journal Indexed in SCI)
- XIX. **Book review**
KUMBASAR T.
FUZZY SETS AND SYSTEMS, vol.306, pp.169-170, 2017 (Journal Indexed in SCI Expanded)
- XX. **Robust Stability Analysis and Systematic Design of Single-Input Interval Type-2 Fuzzy Logic Controllers**
Kumbasar T.
IEEE TRANSACTIONS ON FUZZY SYSTEMS, vol.24, no.3, pp.675-694, 2016 (Journal Indexed in SCI)
- XXI. **A Self-Tuning zSlices-Based General Type-2 Fuzzy PI Controller**
Kumbasar T., Hagrass H.
IEEE TRANSACTIONS ON FUZZY SYSTEMS, vol.23, no.4, pp.991-1013, 2015 (Journal Indexed in SCI)
- XXII. **General derivation and analysis for input-output relations in interval type-2 fuzzy logic systems**
Aliasghary M., EKSİN İ., Güzelkaya M., KUMBASAR T.

- SOFT COMPUTING, vol.19, no.5, pp.1283-1293, 2015 (Journal Indexed in SCI)
- XXIII. **Big Bang-Big Crunch optimization based interval type-2 fuzzy PID cascade controller design strategy**
Kumbasar T., Hagraş H.
INFORMATION SCIENCES, vol.282, pp.277-295, 2014 (Journal Indexed in SCI)
- XXIV. **A simple design method for interval type-2 fuzzy pid controllers**
Kumbasar T.
SOFT COMPUTING, vol.18, no.7, pp.1293-1304, 2014 (Journal Indexed in SCI)
- XXV. **Exact inversion of decomposable interval type-2 fuzzy logic systems**
Kumbasar T., EKSİN İ., Güzelkaya M., YESİL E.
INTERNATIONAL JOURNAL OF APPROXIMATE REASONING, vol.54, no.2, pp.253-272, 2013 (Journal Indexed in SCI)
- XXVI. **Online tuning of fuzzy PID controllers via rule weighing based on normalized acceleration**
Karasakal O., Güzelkaya M., EKSİN İ., YESİL E., KUMBASAR T.
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, vol.26, no.1, pp.184-197, 2013 (Journal Indexed in SCI)
- XXVII. **Type-2 fuzzy model based controller design for neutralization processes**
Kumbasar T., EKSİN İ., Güzelkaya M., YESİL E.
ISA TRANSACTIONS, vol.51, no.2, pp.277-287, 2012 (Journal Indexed in SCI)
- XXVIII. **Adaptive fuzzy model based inverse controller design using BB-BC optimization algorithm**
Kumbasar T., EKSİN İ., Güzelkaya M., YESİL E.
EXPERT SYSTEMS WITH APPLICATIONS, vol.38, no.10, pp.12356-12364, 2011 (Journal Indexed in SCI)
- XXIX. **Interval type-2 fuzzy inverse controller design in nonlinear IMC structure**
Kumbasar T., EKSİN İ., Güzelkaya M., YESİL E.
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, vol.24, no.6, pp.996-1005, 2011 (Journal Indexed in SCI)
- XXX. **Big Bang Big Crunch Optimization Method Based Fuzzy Model Inversion**
KUMBASAR T., GÜZELKAYA M.
Lecture Notes in Computer Science, pp.732-740, 2008 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **Parameter Optimization of Interval Type-2 Fuzzy Neural Networks Based on PSO and BBBC Methods**
Wang J., Kumbasar T.
IEEE-CAA JOURNAL OF AUTOMATICA SINICA, vol.6, pp.247-257, 2019 (Journal Indexed in ESCI)
- II. **A fuzzy logic based intelligent autonomous vehicle control system design in the TORCS game environment**
Armagan E., KUMBASAR T.
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSITESI MUHENDISLIK BILIMLERI DERGISI, vol.24, no.8, pp.1435-1442, 2018 (Other Refereed National Journals)
- III. **Type-2 Fuzzy Logic Control in Computer Games**
Sahin A., Kumbasar T.
TYPE-2 FUZZY LOGIC AND SYSTEMS: DEDICATED TO PROFESSOR JERRY MENDEL FOR HIS PIONEERING CONTRIBUTION, vol.362, pp.105-127, 2018 (Refereed Journals of Other Institutions)
- IV. **Interval type-2 fuzzy PID controllers and an online self-tuning mechanism**
KUMBASAR T.
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSITESI MUHENDISLIK BILIMLERI DERGISI, vol.22, pp.643-649, 2016 (Refereed Journals of Other Institutions)
- V. **Interval Type-2 Fuzzy PID Controllers**
Kumbasar T., Hagraş H.
SPRINGER HANDBOOK OF COMPUTATIONAL INTELLIGENCE, pp.285-294, 2015 (Refereed Journals of Other Institutions)

- VI. **A Design Methodology and Analysis for Interval Type 2 Fuzzy PI PD Controllers**
MORTAZA A., EKSİN İ., GÜZELKAYA M., KUMBASAR T.
International Journal Of Innovative Computing Information And Control, vol.10, pp.4215-4230, 2013 (Refereed Journals of Other Institutions)
- VII. **A design methodology and analysis for interval type 2 fuzzy PI PD controllers**
ALİASGHARY M., EKSİN İ., GÜZELKAYA M., KUMBASAR T.
Int. J. Innov. Comput. Inf. Control, vol.9, no.10, pp.4215-4230, 2013 (Refereed Journals of Other Institutions)
- VIII. **Type-2 fuzzy model inverse controller design based on BB-BC optimization method**
Kumbasar T., Eksin İ., Güzelkaya M., Yesil E.
IFAC Proceedings Volumes (IFAC-PapersOnline), vol.44, pp.5308-5313, 2011 (Refereed Journals of Other Institutions)

Books & Book Chapters

- I. **Type-2 Fuzzy Logic Control in Computer Games**
Sahin A., KUMBASAR T.
in: Type-2 Fuzzy Logic and Systems, John R., Hagraş H., Castillo O., Editor, Springer, 2018
- II. **An Overview on Interval Type-2 Fuzzy PID Controllers**
KUMBASAR T., Hagraş H.
in: Handbook of Computational Intelligence, Kacprzyk, Janusz, Pedrycz, Witold , Editor, Springer, 2015

Refereed Congress / Symposium Publications in Proceedings

- I. **Integrating Interval Type-2 Fuzzy Sets into Deep Embedding Clustering to Cope with Uncertainty**
Bölat K., Kumbasar T.
IEEE International Conference on Fuzzy Systems, Luxembourg, Luxembourg, 11 - 14 July 2021, pp.1-7
- II. **Capturing Uncertainty with Interval Fuzzy Logic Systems through Composite Deep Learning**
Beke A., Kumbasar T.
IEEE International Conference on Fuzzy Systems, Luxembourg, Luxembourg, 11 - 14 July 2021, pp.1-7
- III. **Enhancing the Learning of Interval Type-2 Fuzzy Classifiers with Knowledge Distillation**
Erdem D., Kumbasar T.
IEEE International Conference on Fuzzy Systems, Luxembourg, Luxembourg, 11 - 14 July 2021, pp.1-7
- IV. **A Design Approach for General Type-2 Fuzzy Logic Controllers with an Online Scheduling Mechanism**
Sakalli A., Kumbasar T., Mendel J.
2020 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE), 19 - 24 July 2020
- V. **Interpreting Variational Autoencoders with Fuzzy Logic: A step towards interpretable deep learning based fuzzy classifiers**
Bölat K., KUMBASAR T.
2020 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE), Glasgow, United Kingdom, 19 - 24 July 2020
- VI. **Real-Time Leader-Follower Formation Control of Nano Quadcopters in the Framework of Ratio Control**
Mandacı M., KUMBASAR T.
European Control Conference, 12 - 15 May 2020
- VII. **Parameter Identification and Auto-Tuning of IPMSM for Self-Commissioning**
Çetin Y., Akyol I. E. , Buyukozturk K. C. , KUMBASAR T.
2020 7th International Conference on Electrical and Electronics Engineering (ICEEE), Antalya, Turkey, 14 - 16 April 2020
- VIII. **Self-Commissioning of Electrical Parameters for Sensorless IPMSM Drives**

çetin y., akyol i. e., büyüköztürk k. ç., KUMBASAR T.

International Conference on Electrical and Electronics Engineering, 28 - 30 November 2019

- IX. **Human Operator Modelling with Interval-valued Takagi-Sugeno Fuzzy Models**
tüfekçi a. e., KUMBASAR T.
International Conference on Electrical and Electronics Engineering, 28 - 30 November 2019
- X. **Big Bang Big Crunch based Near-Optimal Guidance Law for Interceptor Problem**
Banerjee A., Nabi M. u., KUMBASAR T.
International Conference on Electrical and Electronics Engineering, 28 - 30 November 2019
- XI. **Altitude and Position Control of Parrot Mambo Minidrone with PID and Fuzzy PID Controllers**
Kaplan M. R., Eraslan A., BEKE A., KUMBASAR T.
International Conference on Electrical and Electronics Engineering, 28 - 30 November 2019
- XII. **A New Insight on the Mappings of Type-2 Fuzzy Logic Systems**
KUMBASAR T.
2019 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE), New Orleans, LA, USA, 23 - 26 June 2019
- XIII. **Interval Type-2 Fuzzy Systems as Deep Neural Network Activation Functions**
BEKE A., KUMBASAR T.
Proceedings of the 2019 Conference of the International Fuzzy Systems Association and the European Society for Fuzzy Logic and Technology (EUSFLAT 2019), Prague, Czech Republic, 9 - 13 September 2019
- XIV. **Real-Time Applications of Fuzzy Logic Control**
KUMBASAR T.
International Symposium on Advanced Electrical and Communication Technologies, 21 - 23 November 2018
- XV. **A Fuzzy Logic based Real Time Two-Wheeled Inverted Pendulum Robot**
Ovur S. E., Candan F., BEKE A., KUMBASAR T.
10th International Conference on Control Engineering Information Technology, 25 - 27 October 2018
- XVI. **Hand Gesture Recognition Systems with the Wearable Myo Armband**
Kaya E., KUMBASAR T.
6th International Conference on Control Engineering Information Technology, 25 - 27 October 2018
- XVII. **Single vs. Double input interval type-2 fuzzy PID controllers: Which one is better?**
Beke A., Kumbasar T.
2018 IEEE International Conference on Fuzzy Systems, FUZZ 2018, Rio-De-Janeiro, Brazil, 8 - 13 July 2018
- XVIII. **Analyzing the control surfaces of type-1 and interval type-2 FLCs through an experimental study**
SAKALLI A., Beke A., Kumbasar T.
2018 IEEE International Conference on Fuzzy Systems, FUZZ 2018, Rio-De-Janeiro, Brazil, 8 - 13 July 2018
- XIX. **Design and Deployment of Fuzzy PID Controllers to the nano quadcopter Crazyflie 2.0**
CANDAN F., Beke A., Kumbasar T.
2018 IEEE International Conference on Innovations in Intelligent Systems and Applications, INISTA 2018, Thessaloniki, Greece, 3 - 05 July 2018
- XX. **Fuzzy Logic and Computer Games**
KUMBASAR T.
2. International Conference on Theoretical and Applied Computer Science and Engineering, 29 - 30 June 2018
- XXI. **FOLLY: A Self Foldable and Self Deployable Autonomous Quadcopter**
Tuna T., Ovur S. E., Gokbel E., Kumbasar T.
6th International Conference on Control Engineering and Information Technology (CEIT), İstanbul, Turkey, 25 - 27 October 2018
- XXII. **A Vision Based Positioning Gas Leakage Test Automation System**
Savran A. I., Kumbasar T.
6th International Conference on Control Engineering and Information Technology (CEIT), İstanbul, Turkey, 25 - 27 October 2018
- XXIII. **YAFT: A Fuzzy Logic based Real Time Two-Wheeled Inverted Pendulum Robot**
Ovur S. E., Candan F., Beke A., Kumbasar T.
6th International Conference on Control Engineering and Information Technology (CEIT), İstanbul, Turkey, 25 - 27

October 2018

XXIV. Fuzzy Logic Based Self-Driving Racing Car Control System

Korkmaz B., Etlik U. B., Beke A., Kumbasar T.

6th International Conference on Control Engineering and Information Technology (CEIT), İstanbul, Turkey, 25 - 27

October 2018

XXV. Diagnosing Interdental Decays in Mouth Radiography Images using Kernel Fuzzy C means Segmentation and Cascade Object Detector

DİZAJI N. K., KUMBASAR T.

International Conference on Electrical and Electronics Engineering, 30 November - 02 December 2017

XXVI. A Fuzzy Logic Based Autonomous Vehicle Control System Design in the TORCS Environment, ARMAGAN E., KUMBASAR T.

International Conference on Electrical and Electronics Engineering, 30 November - 02 December 2017

XXVII. A Fuzzy Logic Based Autonomous Vehicle Control System Design in the TORCS Environment Armagan E., Kumbasar T.

10th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 30 November - 02 December 2017, pp.737-741

XXVIII. A rule based fuzzy gesture recognition system to interact with Sphero 2.0 using a smart phone

Beke A., YÜCELER A. A., Kumbasar T.

2017 International Artificial Intelligence and Data Processing Symposium, IDAP 2017, Malatya, Turkey, 16 - 17 September 2017

XXIX. A smart dermoscope design using artificial neural network

Türkeli S., OGUZ M. S., ABAY S. B., Kumbasar T., ATAY H. T., Kurt K. K.

2017 International Artificial Intelligence and Data Processing Symposium, IDAP 2017, Malatya, Turkey, 16 - 17 September 2017

XXX. Landing on the moon with type-2 fuzzy logic

Sahin A., Kumbasar T.

2017 IEEE International Conference on Fuzzy Systems, FUZZ 2017, Naples, Italy, 9 - 12 July 2017

XXXI. Game of spheros: A real-world pursuit-evasion game with type-2 fuzzy logic

Beke A., Kumbasar T.

2017 IEEE International Conference on Fuzzy Systems, FUZZ 2017, Naples, Italy, 9 - 12 July 2017

XXXII. On the design and gain analysis of IT2-FLC with a case study on an electric vehicle

Sakalli A., Kumbasar T.

2017 IEEE International Conference on Fuzzy Systems, FUZZ 2017, Naples, Italy, 9 - 12 July 2017

XXXIII. Birinci Mertebeden Ölü Zamanlı Sistemler için Sistematik bir Bulanık PID Kontrolör Tasarım Yöntemi

CANKURT R. T., UZUNOĞLU B., KUMBASAR T.

Otomatik Kontrol Toplantısı TOK 2016, Turkey, 29 September - 01 October 2016

XXXIV. Gradient Descent and Extended Kalman Filter based Self-Tuning Interval Type-2 Fuzzy PID Controllers

SAKALLI A., BEKE A., Kumbasar T.

IEEE International Conference on Fuzzy Systems (FUZZ-IEEE), Vancouver, Canada, 24 - 29 July 2016, pp.1592-1598

XXXV. Design and Experimental Validation of Single Input Type-2 Fuzzy PID Controllers as Applied to 3 DOF Helicopter Testbed

MEHNDIRATTA M., KAYACAN E., Kumbasar T.

IEEE International Conference on Fuzzy Systems (FUZZ-IEEE), Vancouver, Canada, 24 - 29 July 2016, pp.1584-1591

XXXVI. Type-2 Fuzzified Flappy Bird Control System

SAHIN A., ATICI E., Kumbasar T.

IEEE International Conference on Fuzzy Systems (FUZZ-IEEE), Vancouver, Canada, 24 - 29 July 2016, pp.1578-1583

XXXVII. An Open Source Matlab/Simulink Toolbox for Interval Type-2 Fuzzy Logic Systems

- TASKİN A., Kumbasar T.
IEEE Symposium Series Computational Intelligence, Cape-Town, South Africa, 7 - 10 December 2015, pp.1561-1568
- XXXVIII. **Tip 2 Bulanık PID Kontrolörleri için Yeni Bir Çevrimiçi Öz Ayarlama Yaklaşımı**
Dodurka M. F. , Sakalli A., Beke A., Savran A. İ. , Sahin A., KUMBASAR T., Yesil E., Hagraş H.
Otomatik Kontrol Toplantısı TOK 2015, Turkey, 10 - 12 October 2015
- XXXIX. **Ekstruder Süreçleri için İMK Tabanlı Bulanık Kazanç Ayarlama Mekanizmalı PID Kontrolör Tasarımı**
Savran A. İ. , Beke A., KUMBASAR T., Yesil E.
Otomatik Kontrol Toplantısı TOK 2015, Turkey, 10 October 2015
- XL. **A Systematic Type 2 Fuzzy Modelling Methodology for Time Series Forecasting**
Dodurka M. F. , Sahin A., KUMBASAR T., Yeşil E., Siradağ S.
4th International Fuzzy Systems Symposium – FUZZYSS'15, 5 - 06 October 2015
- XLI. **Review Study on Fuzzy Time Series and Their Applications in the Last Fifteen Years**
Sahin A., DODURKA M. F. , KUMBASAR T., Yesil E., Siradağ S.
4th International Fuzzy Systems Symposium – FUZZYSS'15, 5 - 06 October 2015
- XLII. **An IMC based Fuzzy Self-Tuning Mechanism for Fuzzy PID Controllers**
SAVRAN A. İ. , BEKE A., Kumbasar T., YESİL E.
International Symposium on Innovations in Intelligent SysTems and Applications (INISTA 2015), Madrid, Spain, 2 - 04 September 2015, pp.343-349
- XLIII. **A Gradient Descent based online tuning Mechanism for PI Type Single input Interval Type-2 fuzzy logic controllers**
Kumbasar T., Hagraş H.
IEEE International Conference on Fuzzy Systems, FUZZ-IEEE 2015, İstanbul, Turkey, 2 - 05 August 2015
- XLIV. **An Internal Model Control Based Design Method for Single Input Fuzzy PID Controllers**
Var A., Kumbasar T., Yesil E.
IEEE International Conference on Fuzzy Systems (FUZZ-IEEE), İstanbul, Turkey, 2 - 05 August 2015
- XLV. **An Enhanced Fuzzy Linguistic Term Generation and Representation for time series forecasting**
Sahin A., Kumbasar T., Yesil E., Dodurka M. F. , Karasakal O., SİRADAG S.
IEEE International Conference on Fuzzy Systems, FUZZ-IEEE 2015, İstanbul, Turkey, 2 - 05 August 2015
- XLVI. **Revisiting KM algorithms: A Linear Programming approach**
Kumbasar T.
IEEE International Conference on Fuzzy Systems, FUZZ-IEEE 2015, İstanbul, Turkey, 2 - 05 August 2015
- XLVII. **On the fundamental differences between the NT and the KM center of Sets Calculation Methods on the IT2-FLC performance**
Sakalli A., Kumbasar T.
IEEE International Conference on Fuzzy Systems, FUZZ-IEEE 2015, İstanbul, Turkey, 2 - 05 August 2015
- XLVIII. **Tuning Methods and Educational GUI Design for 1 DoF and 2 DoF PI D Controllers**
ÇELİK M. K. , Yeşil E., KUMBASAR T.
16th International Conference on Mechatronics – Mechatronika 2014, 3 - 05 December 2014
- XLIX. **An Approach to Represent Time Series Forecasting via Fuzzy Numbers**
Sahin A., Kumbasar T., Yesil E., Dodurka M. F. , Karasakal O.
2nd International Conference on Artificial Intelligence, Modelling and Simulation (AIMS 2014), Madrid, Spain, 18 - 20 November 2014, pp.51-56
- L. **Peak Observer based Self tuning of Type 2 Fuzzy PID Controllers**
Yesil E., KUMBASAR T., Dodurka M. F. , Sakalli A.
International Conference on Artificial Intelligence Applications and Innovations – AIAI 2014, 19 - 21 September 2014
- LI. **Bir ve İki Serbestlik Dereceli PID Kontrolörleri için Ayar Yöntemleri ve Esnek Bir Kullanıcı Arayüz Tasarımı**
ÇELİK M. K. , Yesil E., KUMBASAR T.
Otomatik Kontrol Toplantısı TOK 2014, Turkey, 11 - 13 September 2014
- LII. **The Simplest Interval Type-2 Fuzzy PID Controller: Structural Analysis**

- Sakalli A., Kumbasar T., Dodurka M. F. , Yesil E.
IEEE International Conference on Fuzzy Systems, Beijing, China, 6 - 11 July 2014, pp.626-633
- LIII. **Performance Evaluation of Interval Type-2 and Online Rule weighing based Type-1 Fuzzy PID Controllers on a pH Process**
Kumbasar T., Ozturk C., Yesil E., Hagraş H.
IEEE International Conference on Fuzzy Systems, Beijing, China, 6 - 11 July 2014, pp.1875-1882
- LIV. **Analysis of the performances of type-1, self-tuning type-1 and interval type-2 fuzzy PID controllers on the Magnetic Levitation system**
Sakalli A., KUMBASAR T., Yesil E., Hagraş H.
2014 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE), Beijing, China, 6 - 11 July 2014
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