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Foreign Languages

French, C1 Advanced

English, C1 Advanced

Advising Theses

ERKMEN A. M., Real time dense slam in unstructured dynamic cluttered 3d environments, Doctorate, Ö.HASTÜRK(Student), 2022

ERKMEN A. M., Coriolis vibratory MEMS gyro drive axis control with proxy-based sliding mode controller, Doctorate, D.ÜNSAL(Student), 2022

ERKMEN A. M., Prediction of renal respiratory motion for compensation during percutaneous needle insertion in robot assisted surgery, Postgraduate, M.ÇETİNKAYA(Student), 2018

ERKMEN A. M., Implementation of fractional order controller for stabilized visual tracking system in real military platforms, Postgraduate, M.BAYINDIR(Student), 2018

ERKMEN A. M., Dynamic formation control with heterogeneous mobile robots, Postgraduate, K.ÇİMENÇİ(Student), 2016

ERKMEN A. M., GROWING 3D MAPS FROM 2D SLAM MAPS OBTAINED BY INDOOR SLAM WITH HETEROGENEOUS MOBILE ROBOTS, Postgraduate, B.ÇETİNKAYA(Student), 2015

ERKMEN A. M., Growing 3D maps from 2D SLAM maps obtained by indoor SLAM with heterogeneous mobile robots, Postgraduate, B.Çetinkaya(Student), 2015

ERKMEN A. M., ONLINE MINING OF HUMAN DEEP INTENTION BY PROACTIVE ENVIRONMENT CHANGES USING DEEP NEURAL NETWORKS, Postgraduate, N.BAKİ(Student), 2015

ERKMEN A. M., Cascaded proxy-based sliding mode control enhanced with disturbance observer for the stabilization and control of a gun-turret platform/, Postgraduate, E.ÇANDIR(Student), 2014

ERKMEN A. M., Reshaping human intentions by autonomous sociable robot moves through intention transients generated by elastic networks considering human emotions, Postgraduate, O.CAN(Student), 2014

ERKMEN A. M., Self- reconfigurable modular exoskeleton, Postgraduate, Ç.ALTINTAŞI(Student), 2014

ERKMEN A. M., Improvisation based on imitating human players by a robotic acoustic musical device ROMI built as a self playing compound acoustic musical robot, Doctorate, K.AYDIN(Student), 2013

ERKMEN İ., ERKMEN A. M., Robotic system design for reshaping estimated human intention in human-robot interactions, Doctorate, A.Durdu(Student), 2012

ERKMEN A. M., Sycophant wireless sensor networks tracked by sparsemobile wireless sensor networks while cooperatively mapping an area, Doctorate, S.Doğru(Student), 2012

ERKMEN A. M., The stabilization of a two axes gimbal of a roll stabilized missile, Postgraduate, Ö.Hastürk(Student), 2011

GÖKÇAY D., ERKMEN A. M., Wavelet based deconvolution techniques in identifying fMRI based brain activation, Postgraduate, E.ADLI(Student), 2011

GÖKÇAY D., ERKMEN A. M., Blind deconvolution techniques in identifying fMRI based brain activation, Postgraduate, H.İCLAL(Student), 2011

ERKMEN A. M., Mechanical properties identification of viscoelastic/hyperelastic materials based on experimental data, Postgraduate, A.TABAKCI(Student), 2010

ERKMEN A. M., ERKMEN İ., A snake-like robot for searching, cleaning passages from debris and dragging victims, Postgraduate, E.ÇAĞLAV(Student), 2006

ERKMEN A. M., ERKMEN İ., Intelligent stabilization control of turret subsystems under disturbances from unstructured terrain, Postgraduate, Ö.GÜMÜŞAY(Student), 2006

ERKMEN A. M., Preshaping control for dexterous manipulation with a multifingered robot hand, Doctorate, C.VEYSEL(Student), 2006

ERKMEN A. M., ERKMEN İ., Fault tolerant deployment, search and task cooperative control of robot/sensor networks, Postgraduate, B.AKIN(Student), 2005

ERKMEN A. M., A recommendation system combining context-awareness and user profiling in mobile environment, Postgraduate, S.Ulucan(Student), 2005

ERKMEN A. M., ERKMEN İ., Fuzzy actor-critic learning based intelligent controller for high-level motion control of serpentine robots, Postgraduate, E.ONUR(Student), 2005

ERKMEN A. M., 3-D grasping during serpentine motion with a snake-like robot, Postgraduate, B.ATAKAN(Student), 2005

ERKMEN A. M., ERKMEN İ., A recommendation system combining context-awareness and user profiling in mobile environment, Postgraduate, S.ULUCAN(Student), 2005

ERKMEN A. M., ERKMEN İ., Biologically inspired multichannel modelling of human visual perceptual system, Postgraduate, M.APAYDIN(Student), 2005

ERKMEN İ., ERKMEN A. M., User modeling in mobile environment, Postgraduate, E.ALKILIÇGİL(Student), 2005

ERKMEN A. M., ERKMEN İ., Online critical game flow and dynamic role assignment based on potential fields, Postgraduate, A.AYHAN(Student), 2004

ERKMEN İ., ERKMEN A. M., Reinforcement learning using potential field for role assignment in a multi-robot two-team game, Postgraduate, F.ÖZGÜL(Student), 2004

ERKMEN A. M., ERKMEN İ., Intelligent methods for dynamic analysis and navigation of autonomous land vehicles, Doctorate, H.BURAK(Student), 2004

ERKMEN A. M., Uncertainty modelling and stability analysis for 2-way fuzzy adaptive systems, Doctorate, E.GÜRKAN(Student), 2003

ERKMEN A. M., ERKMEN İ., Intelligent gait control of a multilegged robot used in rescue operations, Postgraduate, E.KARALARLI(Student), 2003

ERKMEN A. M., ERKMEN İ., Intelligent student assessment and coaching interface to web-based education-oriented intelligent experimentation on robot supported laboratory set-ups, Postgraduate, H.ERDEM(Student), 2003

ERKMEN A. M., Intelligent gait synthesizer for serpentine robots, Postgraduate, G.MELTEM(Student), 2001

ERKMEN A. M., Minimizing uncertainty in rough control boundaries of robot path planning using decay adjustment algorithm (DDA), Postgraduate, U.ZEKİ(Student), 2001

ERKMEN A. M., Guidance control of a missile with noisy inertial sensors, Postgraduate, A.GALİP(Student), 2000

ERKMEN A. M., Narrowing the boundary region of rough sets using neural networks, Postgraduate, İ.TOPALLI(Student), 1999

ERKMEN A. M., Holonic modelling of robot hands, Postgraduate, M.DURNA(Student), 1999

ERKMEN A. M., intelligent scheduling using fuzzy genetic algorithms, Postgraduate, M.ERBUDAK(Student), 1997

ERKMEN A. M., Vorticity based manipulability and stability criteria for robot hand preshaping., Postgraduate, H.CANBOLAT(Student), 1993

ERKMEN A. M., Neuro controlled fractal inference networks and their application to grasping with multifingered robot hands, Doctorate, S.Nazlıbilek(Student), 1993

ERKMEN A. M., Generating performance criteria for trainer sets of learning systems using cell-to-cell mapping, Postgraduate, M.ÜNERİ(Student), 1993

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Energy-aware UAV-driven Data Collection with Priority in Robotic Wireless Sensor Network**
GÜL Ö. M., ERKMEN A. M.
IEEE Sensors Journal, vol.23, no.15, pp.17667-17675, 2023 (SCI-Expanded)
- II. **UAV-Driven Sustainable and Quality-Aware Data Collection in Robotic Wireless Sensor Networks**
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- III. **Coriolis Vibratory MEMS Gyro Drive Axis Control with Proxy-Based Sliding Mode Controller**
Ozturk D. U., ERKMEN A. M.
MICROMACHINES, vol.13, no.3, 2022 (SCI-Expanded)
- IV. **DUDMap: 3D RGB-D mapping for dense, unstructured, and dynamic environment**
Hastürk Ö., Erkmen A. M.
International Journal of Advanced Robotic Systems, vol.18, no.3, 2021 (SCI-Expanded)
- V. **Energy-Efficient Cluster-Based Data Collection by a UAV with a Limited-Capacity Battery in Robotic Wireless Sensor Networks**
GÜL Ö. M., ERKMEN A. M.
SENSORS, vol.20, no.20, pp.1-35, 2020 (SCI-Expanded)
- VI. **Reshaping human intention in Human-Robot Interactions by robot moves A comparative analysis of HMM and OOM methods**
Durdu A., ERKMEN A. M., Yilmaz A.
INTERACTION STUDIES, vol.20, no.3, pp.530-560, 2019 (SSCI)
- VII. **Estimating and reshaping human intention via human robot interaction**
DURDU A., ERKMEN İ., ERKMEN A. M.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.24, no.1, pp.88-104, 2016 (SCI-Expanded)
- VIII. **Fluid swarm formation control for hand gesture imitation by ellipse fitting**
TİLKİ U., ERKMEN A. M.
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- IX. **Prioritized Mobile Robot Exploration Based on Percolation Enhanced Entropy Based Fast SLAM**
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- X. **Momentum Transfer from Preshape to Grasping**
Ozyer B., ERKMEN İ., ERKMEN A. M.
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- XI. **A novel multirobot map fusion strategy for occupancy grid maps**
Topal S., ERKMEN İ., ERKMEN A. M.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.21, no.1, pp.107-119, 2013 (SCI-Expanded)
- XII. **Imitation of basic hand preshapes by fluid based method: fluidics formation control**
Tilki U., ERKMEN İ., ERKMEN A. M.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.19, no.2, pp.221-234, 2011 (SCI-Expanded)
- XIII. **An Intelligent Inference System for Robot Hand Optimal Grasp Preshaping**
BAYSAL C. V., ERKMEN A. M.
INTERNATIONAL JOURNAL OF COMPUTATIONAL INTELLIGENCE SYSTEMS, vol.3, no.5, pp.656-673, 2010 (SCI-Expanded)
- XIV. **Enhancing positioning accuracy of GPS/INS system during GPS outages utilizing artificial neural**

network

Kaygisiz B. H., Erkmen A. M., Erkmen I.

NEURAL PROCESSING LETTERS, vol.25, no.3, pp.171-186, 2007 (SCI-Expanded)

- XV. **Intelligent analysis of chaos roughness in regularity of walk for a two legged robot**
Kaygisiz B., Erkmen I., Erkmen A.
CHAOS SOLITONS & FRACTALS, vol.29, no.1, pp.148-161, 2006 (SCI-Expanded)
- XVI. **A Petri net approach to behavioural simulation of design artefacts with application to mechatronic design**
Erden Z., Erden A., Erkmen A.
RESEARCH IN ENGINEERING DESIGN-THEORY APPLICATIONS AND CONCURRENT ENGINEERING, vol.14, no.1, pp.34-46, 2003 (SCI-Expanded)
- XVII. **Snake robots to the rescue!**
Erkmen I., Erkmen A., Matsuno F., Chatterjee R., Kamegawa T.
IEEE ROBOTICS & AUTOMATION MAGAZINE, vol.9, no.3, pp.17-25, 2002 (SCI-Expanded)
- XVIII. **Two-way fuzzy adaptive identification and control of a flexible-joint robot arm**
Gurkan E., Erkmen I., Erkmen A.
INFORMATION SCIENCES, vol.145, pp.13-43, 2002 (SCI-Expanded)
- XIX. **Mechatronics education**
Erkmen A., Tsubouchi T., Murphy R.
IEEE ROBOTICS & AUTOMATION MAGAZINE, vol.8, no.2, pp.4, 2001 (SCI-Expanded)
- XX. **Robot hand preshaping and regrasping using genetic algorithms**
Erkmen I., Erkmen A., Gunver H.
INTERNATIONAL JOURNAL OF ROBOTICS RESEARCH, vol.19, no.9, pp.857-874, 2000 (SCI-Expanded)
- XXI. **The multidisciplinary International Virtual Design Studio (MIVDS)**
Erden A., Erkmen A., Erkmen I., Bucinell R., Traver C., Notash L.
IEEE TRANSACTIONS ON EDUCATION, vol.43, no.3, pp.288-295, 2000 (SCI-Expanded)
- XXII. **Optimal initialization of manipulation dynamics by vorticity model of robot hand preshaping. Part I: Vorticity model**
Erkmen A., Erkmen I., Tekkaya E.
JOURNAL OF ROBOTIC SYSTEMS, vol.17, no.4, pp.199-212, 2000 (SCI-Expanded)
- XXIII. **Optimal initialization of manipulation dynamics by vorticity model of robot hand preshaping. Part II: Analyses of grasp initialization and its vorticity based optimization**
Erkmen A., Erkmen I., Tekkaya E.
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- XXIV. **Haptic perception of shape and hollowness of deformable objects using the Anthrobot-III robot hand**
Erkmen I., Erkmen A., Tekkaya A., Pasinlioglu T.
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- XXV. **A computerized diagnostic system for the interpretation of umbilical artery blood flow velocity waveforms**
Beksac M., Basaran F., Eskiizmirli S., Erkmen A., Yorukan S.
EUROPEAN JOURNAL OF OBSTETRICS & GYNECOLOGY AND REPRODUCTIVE BIOLOGY, vol.64, no.1, pp.37-42, 1996 (SCI-Expanded)
- XXVI. **INTERPRETATION OF DOPPLER BLOOD-FLOW VELOCITY WAVE-FORMS USING NEURAL NETWORKS**
BAYKAL N., REGGIA J., YALABIK N., ERKMEN A., BEKSAC M.
JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION, pp.865-869, 1994 (SCI-Expanded)

Articles Published in Other Journals

- I. **NTN-Aided Quality and Energy-Aware Data Collection in Time-Critical Robotic Wireless Sensor**

Networks

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IEEE Internet of Things Magazine, vol.7, no.3, pp.114-120, 2024 (Scopus)

II. Towards the robotic “avatar”: An extensive survey of the cooperation between and within networked mobile sensors

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Future Internet, vol.2, no.3, pp.363-387, 2010 (Scopus)

III. Percolation enhanced prioritised multi-robot exploration of unstructured environments

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International Journal of Reasoning-based Intelligent Systems, vol.2, no.3-4, pp.217-225, 2010 (Scopus)

Refereed Congress / Symposium Publications in Proceedings

I. Formation Control of Unmanned Aerial Vehicles for Dynamically Changing Formations Facing Suddenly Emerging Environmental Features

Cimen S., ERKMEN A. M.

10th International Conference on Recent Advances in Air and Space Technologies, RAST 2023, İstanbul, Turkey, 7 - 09 June 2023

II. Exact kalman filtering of respiratory motion

ÇETİNKAYA M., Akgun S. A., ERKMEN A. M., ERKMEN İ.

6th International Conference on Control Engineering and Information Technology, CEIT 2018, İstanbul, Turkey, 25 - 27 October 2018

III. Achieving Asymptotically Optimal Throughput in Centralized Mobile Robot Networks without Dispatching Feedback

gul o. m., ERKMEN A. M.

28th European Conference on Operational Research EURO2016, Poland, 27 - 30 July 2016

IV. Elastic Networks in Reshaping Human Intentions by Proactive Social Robot Moves

Gorur O. C., ERKMEN A. M.

23rd IEEE International Symposium on Robot and Human Interactive Communication (IEEE RO-MAN), Edinburgh, Saint Helena, 25 - 29 August 2014, pp.1012-1017

V. Intelligent Mesh For Self Reconfigurability of an Exoskeleton Arm

altintasi c., ERKMEN A. M.

19th IFAC (International Federation on Automatic Control) World Congress, 27 - 31 August 2014

VI. IMITATION OF HUMAN BODY POSES BY THE FORMATION CONTROL OF A FLUIDIC SWARM

Tilki U., ERKMEN İ., ERKMEN A. M.

11th ASME Biennial Conference on Engineering Systems Design and Analysis, (ESDA 2012), Nantes, France, 2 - 04 July 2012, pp.361-370

VII. Improvisation Based on Imitating Human Players by a Robotic Acoustic Musical Device

Aydin K. K., ERKMEN A. M., ERKMEN İ.

World Congress on Engineering and Computer Science (WCECS 2011), San-Francisco, Costa Rica, 19 - 21 October 2011, pp.331-336

VIII. Morphing Estimated Human Intention via Human-Robot Interactions

Durdu A., ERKMEN İ., ERKMEN A. M., Yilmaz A.

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IX. Proxy-Based Sliding Mode Stabilization of a Two-Axis Gimbaled Platform

Hasturk O., ERKMEN A. M., ERKMEN İ.

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X. Musical State Representation for Imitating Human Players by a Robotic Acoustic Musical Device

ERKMEN A. M., aydin k.

IEEE International Conference on Mechatronics ICM 2011, 3 - 08 April 2011

- XI. **A Novel Map Merging Methodology for Multi-Robot Systems**
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World Congress on Engineering and Computer Science (WCECS)/International Conference on Advances in Engineering Technologies, San-Francisco, Costa Rica, 20 - 22 October 2010, pp.383-387
- XII. **Imitation of Hand Postures with Particle Based Fluidics Method**
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World Congress on Engineering and Computer Science (WCECS)/International Conference on Advances in Engineering Technologies, San-Francisco, Costa Rica, 20 - 22 October 2010, pp.361-362
- XIII. **Momentum Transfer from the Fingers to Object Based on Fluid Dynamics**
Ozyer B., ERKMEN İ., ERKMEN A. M.
World Congress on Engineering and Computer Science (WCECS)/International Conference on Advances in Engineering Technologies, San-Francisco, Costa Rica, 20 - 22 October 2010, pp.346-349
- XIV. **CATCHING CONTINUUM BETWEEN PRESHAPE AND GRASPING BASED ON FLUIDICS**
Ozyer B., ERKMEN İ., ERKMEN A. M.
10th ASME Biennial Conference on Engineering Systems Design and Analysis, İstanbul, Turkey, 12 - 24 July 2010, pp.683-691
- XV. **Cooperation of three UAV's for Aerial Rescue and Aerial Retrieval**
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ICAST 09, IEEE International Conference on Adaptive Science and Technology, 14 - 16 December 2009
- XVI. **Tracking a sycophant wireless sensor network for its seamless integration to mobile sensor networks**
dogru s., ERKMEN A. M., erkmen i.
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- XVII. **Imitation of Basic Hand Preshapes by Fluid Based Method: Fluidic Formation Control**
ERKMEN A. M., TILKI U., erkmen i.
10th ELECO International Conference on Electrical Electronics and Computer Engineering, 5 - 08 November 2009
- XVIII. **NEW PRIORITIZED MULTI-ROBOT EXPLORATION STRATEGY BASED ON PERCOLATION MODEL IN UNKNOWN ENVIRONMENTS**
Topal S., ERKMEN İ., ERKMEN A. M.
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- XIX. **"Morphing a Mobile Robot Network to Dynamic Task Changes over time and space**
ERKMEN A. M., Topal S., erkmen i.
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- XX. **Intelligent Coordination of Multi-Robots for Victim Search Operations,**
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- XXII. **A snake-like robot for variable friction unstructured terrains, pushing aside debris in clearing passages**
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- XXIII. **Control of Robotic Swarm Behaviors based on Smoothed Particle Hydrodynamics**
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- XXV. **FACL based 3D grasping controller for a snake robot during locomotion**
Ari E. O., ERKMEN İ., ERKMEN A. M.
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- XXVI. **Scalable self-deployment of mobile sensor networks: A fluid dynamics approach**
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- XXVII. **A behavior based layered, hybrid, control architecture for robot/sensor networks**
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- XXVIII. **3-D grasping during serpentine motion with a snake-like robot**
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- XXIX. **Equivalent linearization of 2-way fuzzy adaptive system under nonparametric uncertainty and inconsistency**
Gurkan E., Banks S., Erkmen A., Erkmen I.
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- XXX. **Evaluation of inconsistency in a 2-way fuzzy adaptive system using shadowed sets**
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- XXXI. **Self-reconfiguration in task space of a holonic structure**
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- XXXII. **The self-reconfiguration of a holonic hand: The holonic regrasp**
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- XXXIII. **Resilient backpropagation for RBF networks**
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- XXXIV. **Reducing inconsistencies in intuitionistic 2-way adaptive fuzzy control systems**
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- XXXV. **Game theoretic colony control of holonic robots inspecting inner surfaces of pipes**
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- Environments, New-Mexico, United States Of America, 27 February - 02 March 2000, pp.234-240
- XXXVI. **DESIGN OF A HOLONIC SELF-RECONFIGURABLE ROBOTIC SYSTEM**
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- XXXVII. **Intuitionistic, 2-way adaptive fuzzy control**
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- XXXVIII. **Decision and feature fusion over the fractal inference network using camera and range sensors**
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- XXXIX. **Holonic grasping**
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- XL. **A Petri Net-based inference network for design automation under nondeterminism applied to mechatronic systems**
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- XLI. **Genetic algorithm based optimal regrasping with the anthropot 5-fingered robot hand**
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- XLII. **Tagged potential field extension to self organizing feature maps**
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- XLIII. **An automated blood cell analysis and classification system**
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13th International Symposium on Computer and Information Sciences (ISCIS 98), BELEK ANTALYA, Turkey, 26 - 28 October 1998, vol.53, pp.222-227
- XLIV. **Interacting fuzzy multimodel intelligent tracking system for swift target manoeuvres**
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- XLV. **Tracking a swift target using the interacting fuzzy multi-model algorithm**
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- XLVII. **Genetically tuned fuzzy scheduling for flexible manufacturing systems.**
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- XLVIII. **FROM FETAL BLOOD-FLOW DOPPLER ULTRASOUND IMAGES USING WAVELET TRANSFORMS**
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- L. **SENS-PERCEPTOR - IMAGE-BASED EVIDENCE FORMATION MODULE AS A LOGICAL SENSOR FOR ROBOT HAND PRESHAPING**
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- LI. **FUZZY CELL-TO-CELL MAPPING**
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Supported Projects

ERKMEN A. M., Project Supported by Higher Education Institutions, Mobil Robotlarda Koordineli Çalışabilen Asalak Sensör Ağları Geliştirme Ve Bu Hibrid Ağ Yapısıyla 3 Boyutlu Çerçeveve Kesintisiz Veri Toplama, 2008 - Continues

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Non Academic Experience

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METU Electrical Eng Dept

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