

Assoc. Prof. Burcu ERKMEN

Personal Information

Birthyear: 1978

Place of birth: Eskişehir

Email: bkapan@yildiz.edu.tr

Web: <https://avesis.yildiz.edu.tr/bkapan>



Education Information

2002 - 2007	Doctorate, Yıldız Teknik Üniversitesi, Elektrik Elektronik Fakültesi, Turkey
1999 - 2001	Post Graduate, Yıldız Teknik Üniversitesi, Elektrik Elektronik Fakültesi, Turkey
1995 - 1999	Under Graduate, Yıldız Teknik Üniversitesi, Elektrik Elektronik Fakültesi, Turkey

Foreign Languages

English, B2 Upper Intermediate

Research Areas

Artificial Intelligence, Computer Learning and Pattern Recognition, Electrical and Electronics Engineering, Electronic, Electronic Circuits, Power Electronics, Power Converters

Academic Titles / Tasks

2014 - Continues	Associate Professor, Yıldız Teknik Üniversitesi, Elektrik Elektronik Fakültesi, Elektronik Ve Haberleşme Müh.
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Professional Experience

2019 - Continues	Vice Dean, Yıldız Technical University, Faculty of Electrical & Electronics, Electronics And Communication Engineering
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Advising Theses

2019	Erkmen B., Doctorate, A.Rıza(Student), Computational Intelligence Based Power Electronics Circuit Design
2019	Erkmen B., Doğan H., Post Graduate, C.AYAN(Student), Logaritmik Güç Detektörü Tasarımı
2019	Erkmen B., Post Graduate, M.GÜNER(Student), Biomedical signal-based control system design
2017	Erkmen B., Post Graduate, F.ÜCRAK(Student), Evaluation of learning levels of laparoscopic surgical simulations by electroencephalographic signal analysis
2017	Erkmen B., Post Graduate, F.SEREZ(Student), Determination and realization of sensorless position detection method for a brushless DC motor
2017	Erkmen B., Post Graduate, B.GUKSA(Student), The detection of sleeping condition in different place conditions using smart phone
2015	Erkmen B., Post Graduate, N.AKKAN(Student), Graphene based analog circuit design

2015	Erkmen B., Post Graduate, H.GÜNEREN(Student), Face recognition application on embedded system using support vector machines
2014	Erkmen B., Post Graduate, İ.DEMİREL(Student), Power supply optimization for new technology adaptable televisions
2014	Erkmen B., Post Graduate, A.RIZA(Student), Training of artificial neural network with differential evolution algorithm on FPGA
2012	Erkmen B., Post Graduate, C.ÖZÇİFTÇİ(Student), Design and implementation of flyback inverter transferring energy to the grid

Jury Memberships

May 2020	Competition, TEKNOFEST / Çevre ve Enerji Teknolojileri Yarışması, Yıldız Technical University
May 2019	Competition, TEKNOFEST / Yapay Zeka Yarışması , TEKNOFEST / Yapay Zeka Yarışması
September 2018	Competition, Teknofest/ Yapay Zeka, TEKNOFEST/ Yapay Zeka Yarışması

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

- I. **Design of gain-scheduling PID controllers for Z-source inverter using iterative reduction-based heuristic algorithms**
YILMAZ A. R. , EROL B., DELİBAŞI A., ERKMEN B.
SIMULATION MODELLING PRACTICE AND THEORY, vol.94, pp.162-176, 2019 (Journal Indexed in SCI)
- II. **FPGA-Based Space Vector PWM and Closed Loop Controllers Design for the Z Source Inverter**
Yilmaz A. R. , Erkmen B.
IEEE ACCESS, vol.7, pp.130865-130873, 2019 (Journal Indexed in SCI)
- III. **Process independent automated sizing methodology for current steering DAC**
Vural R., Kahraman N., Erkmen B., Yıldırım T.
INTERNATIONAL JOURNAL OF ELECTRONICS, vol.102, pp.1713-1734, 2015 (Journal Indexed in SCI)
- IV. **A Very Low-Profile Dual Output LLC Resonant Converter for LCD/LED TV Applications**
Demirel I., Erkmen B.
IEEE TRANSACTIONS ON POWER ELECTRONICS, vol.29, pp.3514-3524, 2014 (Journal Indexed in SCI)
- V. **A Mixed Mode Neural Network Circuitry for Object Recognition Application**
Erkmen B., Vural R., Kahraman N., Yıldırım T.
CIRCUITS SYSTEMS AND SIGNAL PROCESSING, vol.32, pp.29-46, 2013 (Journal Indexed in SCI)
- VI. **Conic Section Function Neural Network Circuitry for Offline Signature Recognition**
Erkmen B., Kahraman N., Vural R., Yıldırım T.
IEEE TRANSACTIONS ON NEURAL NETWORKS, vol.21, pp.667-672, 2010 (Journal Indexed in SCI)
- VII. **THRESHOLD VOLTAGE MODELING USING NEURAL NETWORKS**
Kahraman N., Erkmen B., Yıldırım T.
NEURAL NETWORK WORLD, vol.19, pp.255-262, 2009 (Journal Indexed in SCI)
- VIII. **Improving classification performance of sonar targets by applying general regression neural network with PCA**
Erkmen B., Yıldırım T.
EXPERT SYSTEMS WITH APPLICATIONS, vol.35, pp.472-475, 2008 (Journal Indexed in SCI)
- IX. **Statistical neural network based classifiers for letter recognition**
Erkmen B., Yıldırım T.
Lecture Notes in Control and Information Sciences, vol.345, pp.1081-1086, 2006 (Journal Indexed in SCI)
- X. **Conic section function neural networks for sonar target classification and performance evaluation using ROC analysis**
Erkmen B., Yıldırım T.
Lecture Notes in Control and Information Sciences, vol.345, pp.779-784, 2006 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **IMPLEMENTATION OF SENSORLESS POSITION DETECTION CIRCUIT WITH FOUR-SWITCH INVERTER TOPOLOGY FOR A PERMANENT MAGNET SYNCHRONOUS MOTOR**
Serez F., Erkmen B.
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.38, pp.311-327, 2020 (Journal Indexed in ESCI)
- II. **Intelligent Wireless Sensor Networks for Early Fire Warning System**
Önal A. F. , Ülver B., Durusoy A., Erkmen B.
Electrica, vol.20, pp.1-9, 2020 (Journal Indexed in ESCI)
- III. **KAPALI ALAN YAYA KONUMLANDIRMA SİSTEMİ**
Aydın H., Erkmen B.
Süleyman Demirel Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.7, pp.337-344, 2019 (National Refereed University Journal)
- IV. **Design and optimization of a power supply unit for low profile LCD/LED TVs**
Acar Vural R., Demirel İ., Erkmen B.
An International Journal of Optimization and Control: Theories and Applications, vol.7, no.2, pp.158-166, 2017 (International Refereed University Journal)
- V. **ACCELERATING HANDWRITTEN SIGNATURE RECOGNITION USING INTELLIGENT ALGORITHM BASED EMBEDDED SYSTEM**
Yılmaz A. R. , Erkmen B., Yavuz O.
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.34, no.34, pp.393-405, 2016 (Journal Indexed in ESCI)
- VI. **Determination of Approximate Main Engine Power for Chemical Cargo Ships Using Radial Basis Function Neural Network**
Erkmen B., Çelebi U. B. , Ekinçi S., Yıldırım T.
Journal of Naval Science and Engineering, no.2, pp.105-115, 2004 (International Refereed University Journal)

Books & Book Chapters

- I. **FPGA Üzerinde Differansiyel Gelişim Algortiması ile YSA Eğitimi**
YILMAZ A. R. , ERKMEN B.
Lap Lambert Academic Publishing, İstanbul, 2017

Refereed Congress / Symposium Publications in Proceedings

- I. **V/UHF FREQUENCY BAND CMOS LOGARITHMIC RF POWER DETECTOR DESIGN**
Ayan C., Doğan H., Erkmen B.
4. International Congress on Engineering, Architecture and Design, İstanbul, Turkey, 23 - 24 April 2019, pp.459-465
- II. **EMPEDANS KAYNAKLI İNVERTERLER İÇİN ÇOK SEVİYELİ PID KONTROLÖR TASARIMI**
Yılmaz A. R. , Erkmen B.
4. Uluslararası Bilimsel Araştırmalar Kongresi, UBAK 2019, Yalova, Turkey, 14 - 17 February 2019, pp.75-80
- III. **Real-Time, Portable EEG Signal Acquisition System**
Guner M., Erkmen B.
2018 Medical Technologies National Congress (TIPTEKNO), Gazimagusa, Cyprus (Kktc), 8 - 10 November 2018, pp.1-4
- IV. **Smart phone application for drowsiness detection during driving**
GÜKSA B., ERKMEN B.
2017 2nd International Conference on Frontiers of Sensors Technologies (ICFST), 14 - 16 April 2017
- V. **Face recognition, NFC and voice controlled door lock system**

ADALAN K., ERKMEN B.

2016 National Conference on Electrical, Electronics and Biomedical Engineering (ELECO), Turkey, 1 - 03 December 2016

- VI. **Analysis of Graphene Field Effect Transistor Based Current Mirrors**
Akkan N., Erkmen B.
7th IEEE Latin American Symposium on Circuits and Systems (LASCAS), Florianopolis, Brazil, 28 February - 02 March 2016, pp.83-86
- VII. **Implementation Aspects of Wigner-Hough Transform Based Detectors for LFM CW Signals**
GÜNER K. K. , ERKMEN B., GULUM T. O. , ERDOĞAN A., YILDIRIM T., ATA L. D.
39th International Conference on Telecommunications and Signal Processing (TSP), Vienna, Austria, 27 - 29 June 2016, pp.441-444
- VIII. **İşaretlerinin Kestirimi için Wigner Hough Dönüşümünün Donanım Uygulamasına Yönelik İyileştirilmesi**
güner k., ERKMEN B., gülüm t., Erdoğan A., YILDIRIM T., DURAK ATA L.
Sinyal İşleme ve Uygulamaları Kurultayı, Turkey, 16 - 19 May 2015
- IX. **Improving Wigner Hough Transform for hardware implementation to intercept LFM CW signals**
GÜNER K. K. , ERKMEN B., GULUM T., ERDOĞAN Y., YILDIRIM T., DURAK ATA L.
2015 23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, Turkey, 16 - 19 May 2015
- X. **FPGA Implementation of Differential Evaluation Algorithm for MLP Training**
Yilmaz A. R. , ERKMEN B., YAVUZ O.
IEEE International Symposium on Innovations in Intelligent Systems and Applications (INISTA), Alberobello, Italy, 23 - 25 June 2014, pp.425-430
- XI. **CMOS Differential Amplifier Area Optimization with Evolutionary Algorithms**
ACAR VURAL R., ERKMEN B., BOZKURT U., YILDIRIM T.
The World Congress on Engineering and Computer Science (WCECS), San-Francisco, United States Of America, 23 - 25 October 2013, vol.2, pp.666-670
- XII. **The performance of differential evolution algorithm for training CSFNN using a pattern recognition application**
Yilmaz A. R. , ERKMEN B., YAVUZ O.
2013 4th International Conference on Intelligent Control and Information Processing, ICICIP 2013, Beijing, China, 9 - 11 June 2013, pp.820-823
- XIII. **Field programmable gate array implementation of conic section function neural network: An alternative to analog CSFNN circuitry**
Elitas M., Yavuz O., ERKMEN B.
IEEE 16th International Conference on Intelligent Engineering Systems, INES 2012, Lisbon, Portugal, 13 - 15 June 2012, pp.135-138
- XIV. **Genel Amaçlı Konik Kesit Fonksiyonlu Sinir Ağı TümdEVRESİ Üzerinde Obje Tanıma**
ACAR VURAL R., KAHRAMAN N., ERKMEN B., YILDIRIM T.
SIU 2008 2008 IEEE 16th Signal Processing, Communication and Applications Conference, Turkey, 20 - 22 April 2008
- XV. **CSFNN Optimization of Signature Recognition Problem for a Special VLSI NN Chip**
ERKMEN B., KAHRAMAN N., ACAR VURAL R., YILDIRIM T.
2008 3rd International Symposium on Communications, Control and Signal Processing, 12 - 14 March 2008
- XVI. **Genel Amaçlı Konik Kesit Fonksiyonlu Sinir Ağı TümdEVRESİ Üzerinde Obje Tanıma**
ACAR VURAL R., KAHRAMAN N., ERKMEN B., YILDIRIM T.
IEEE 16. Sinyal İşleme ve Uygulamaları Sempozyumu (SİU2008), Aydın, Turkey, 20 April 2008, pp.1-5
- XVII. **CSFNN optimization of signature recognition problem for a special VLSI NN chip**
Erlanen B., KAHRAMAN N., VURAL R., YILDIRIM T.
3rd IEEE International Symposium on Control, Communications and Signal Processing (ISCCSP 2008), St Julians, Malta, 12 - 14 March 2008, pp.1082-1085

- XVIII. VLSI Implementation of General Purposed Conic Section Function Neural Network**
Erkmen B., Yıldırım T.
5th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 5 - 09 December 2007, vol.2, pp.80-84
- XIX. Obtaining decision boundaries of CSFNN neurons using current mode analog circuitry**
ERKMEN B., YILDIRIM T.
ECCTD 2007. 18th European Conference on Circuit Theory and Design, 2007., 27 - 30 August 2007
- XX. CSFNN synapse and neuron design using current mode analog circuitry**
ERKMEN B., Yidirm T.
11th International Conference on Knowledge-Based Intelligent Informational and Engineering Systems/17th Italian Workshop on Neural Networks, Vietri sul Mare, Italy, 12 - 14 September 2007, vol.4692, pp.17-18
- XXI. Efficient Training of Recurrent Neural Nets for Macromodeling p MOSFET at Microwave Frequencies Using Levenberg Marquardt Learning Algorithm**
ACAR VURAL R., ERKMEN B.
Proceedings of the Ninth International Conference on Engineering Applications of Neural Networks (EANN), Lille - Fransa, 1 August - 03 December 2005, vol.1, pp.171-178
- XXII. Macromodeling P MOSFET at Microwave Frequencies Using Elman Network**
ERKMEN B., ACAR VURAL R., ŞENGÖR N. S.
International Conference on Applied Electronics, Pilsen - Çek Cumhuriyeti, 1 - 03 September 2004, pp.105-108
- XXIII. Yapay Sinir Ağları için Düşük Güçlü Dört Bölge CMOS Analog Çarpıcı**
ERKMEN B., YILDIRIM T.
SİU 2004, IEEE 12. Sinyal İşleme ve İletişim Uygulamaları Kurultayı, Turkey, 28 - 30 April 2004
- XXIV. Generalized Regression Neural Networks For Underwater Target Classification**
ERKMEN B., YILDIRIM T.
2nd International symposium on Electrical and Computer Engineering (NEU-CEE), Lefkoşa - Kuzey Kıbrıs Türk Cumhuriyeti, 11 - 13 March 2004, pp.223-225
- XXV. Standart Öklid mesafesi hesaplayan bir CMOS analog devrenin RBF ağlarına uyarlanması**
ÇOBAN Y., ERKMEN B., YILDIRIM T.
Elektrik-Elektronik-Bilgisayar Mühendisliği 10. Ulusal Kongresi, Turkey, 18 - 21 September 2003
- XXVI. A novel four quadrant CMOS analog multiplier for artificial neural networks**
ERKMEN B., YILDIRIM T.
XII. TAINN Symposium Proceedings, 2 - 04 July 2003
- XXVII. Yapay sinir ağlarında kullanılan dört bölge CMOS analog çarpıcı**
ERKMEN B., YILDIRIM T.
Elektrik-Elektronik-Bilgisayar Mühendisliği 8. Ulusal Kongresi, Turkey, 6 - 12 September 1999

Supported Projects

2014 - 2016	Siber Güvenlik ve Biyometrik Araştırmalar Danışmanlık ve Test Merkezi, Development Agency
2013 - 2015	Yakalanma Olasılığı Düşük Radar İşaretlerinin Zaman- Frekans İşaret İşleme ile Tespiti ve Parametrelerinin Çıkarmı, TUBITAK Project
2012 - 2015	Genel Amaçlı Konik Kesit Fonksiyonlu Sinir Ağının ve Eğitim İşleminde Kullanılan Optimizasyon Algoritmalarının FPGA Üzerinde Gerçeklenmesi, Project Supported by Higher Education Institutions
2012 - 2013	Yeni Teknolojiye Uygun Televizyonlar İçin Güç Kaynağı Optimizasyonu, Company
2006 - 2008	Kısa Kanallı CMOS Devrelerin Yapay Sinir Ağları İle Üretim Teknoloji Parametrelerinden Bağımsız Tasarımı, Project Supported by Higher Education Institutions
2005 - 2008	Genel Amaçlı Bir Yapay Sinir Ağının Karma Bir Donanımla Gerçeklenmesi, TUBITAK Project

Scientific Refereeing

June 2018	Transaction on Power Electronics, SCI Journal
June 2013	TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES, SCI Journal
October 2011	Dergi ismi: Circuits, Systems & Signal Processing, SCI Journal
May 2011	Dergi ismi: TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES, SCI Journal
March 2011	Konferans İsmi: INISTA 2011, SCI Journal

Citations

- I. Total Citations (WOS): 120
- II. h-index (WOS): 5