



## DOÇ. DR. REVNA ACAR VURAL

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### ARAŞTIRMA ALANLARI

DIJİTAL TEKNOLOJİLER  
YENİLENEBİLİR ENERJİ KAYNAKLARI  
ELEKTRONİK DEVRE TASARIM OTOMASYONU  
EVİRİMSSEL ALGORİTMALAR  
YAPAY ZEKA  
OPTİMİZASYON

### EĞİTİM

**Doktora: Elektronik Programı – Elektronik ve Haberleşme Mühendisliği Bölümü (2011)**  
FEN BİLİMLERİ ENSTITUSU  
YILDIZ TEKNİK UNIVERSİTESİ - İstanbul, TÜRKİYE  
Tez Başlığı: Particle Swarm Optimization for Electronic Circuit Design Automation  
Mezuniyet Ortalaması: 3.87/4.0

**Yüksek Lisans: Elektronik Programı – Elektronik ve Haberleşme Mühendisliği Bölümü (2006)**  
FEN BİLİMLERİ ENSTITUSU  
YILDIZ TEKNİK UNIVERSİTESİ - İstanbul, TÜRKİYE  
Tez Başlığı: General Regression Neural Network Usage in Medical Diagnosis and Design of GRNN Analog Subcircuits

**Lisans: Elektronik ve Haberleşme Mühendisliği Bölümü (2004)**  
YILDIZ TEKNİK UNIVERSİTESİ - İstanbul, TÜRKİYE  
Tez Başlığı: Bit Stuffer Circuit Design

### AKADEMİK DENEYİM

**Doçent Dr.**

ELEKTRONİK ANABİLİM DALI  
ELEKTRONİK VE HABERLEŞME MÜHENDİSLİĞİ BÖLÜMÜ  
YILDIZ TEKNİK UNIVERSİTESİ - İstanbul, TÜRKİYE  
Haziran 2021-

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### Dr. Öğretim Üyesi / Yard. Doç. Dr.

ELEKTRONİK ANABİLİM DALI  
ELEKTRONİK VE HABERLEŞME MÜHENDİSLİĞİ BÖLÜMÜ  
YILDIZ TEKNİK UNIVERSİTESİ - İstanbul, TÜRKİYE  
Eylül 2013- Haziran 2021

### Dr. Öğretim Üyesi (Yarı Zamanlı)

ELEKTRİK-ELEKTRONİK MÜHENDİSLİĞİ BÖLÜMÜ  
İSTANBUL BİLGİ UNIVERSİTESİ - İstanbul, TÜRKİYE  
Eylül 2018- Haziran 2021

### Araştırma Görevlisi

ELEKTRONİK ANABİLİM DALI  
ELEKTRONİK VE HABERLEŞME MÜHENDİSLİĞİ BÖLÜMÜ  
YILDIZ TEKNİK UNIVERSİTESİ - İstanbul, TÜRKİYE  
Ekim 2002- Eylül 2013

## ARAŞTIRMA PROJELERİ

**ÇERKEZKÖY ORGANİZE SANAYİ BÖLGESİ DİJİTAL OLGUNLUK SEVİYESİ BELİRLEME, DİJİTAL DÖNÜŞÜM YOL HARİTASI ÇIKARMA**  
TRAKYA KALKINMA AJANSI DESTEKLİ  
BAŞLANGIÇ: HAZİRAN 2021 / BİTİŞ: KASIM 2021

**NÖROMORFİK İŞLEMCI TABANLI ENERJİ ETKİN GÖRÜNTÜ SINIFLANDIRMA SİSTEMİ**  
YILDIZ TEKNİK UNIVERSİTESİ BİLİMSEL ARAŞTIRMA PROJELERİ KOORDİNATÖRLÜĞÜ DESTEKLİ  
BAŞLANGIÇ: ARALIK 2021 (DEVAM EDİYOR)

**KA-BANT UYDU HABERLEŞMESİ İÇİN ÇOKLU HÜZMELİ YANSITICI DİZİ ANTEN TASARIMI**  
YILDIZ TEKNİK UNIVERSİTESİ BİLİMSEL ARAŞTIRMA PROJELERİ KOORDİNATÖRLÜĞÜ DESTEKLİ  
BAŞLANGIÇ: AĞUSTOS 2021 (DEVAM EDİYOR)

**OPTİK GİRİŞLİ İĞNECİKLİ YAPAY SINIR AĞLARI TÜMLEŞİK DEVRE TASARIMI**  
İSTANBUL BİLGİ UNIVERSİTESİ BİLİMSEL ARAŞTIRMA PROJELERİ KOORDİNATÖRLÜĞÜ DESTEKLİ  
BAŞLANGIÇ: MART 2020 (DEVAM EDİYOR)

**SİBER GÜVENLİK VE BIYOMETRİK ARAŞTIRMALAR DANIŞMANLIK VE TEST MERKEZİ**  
İSTANBUL KALKINMA AJANSI DESTEKLİ  
BAŞLANGIÇ: EYLÜL 2014 / BİTİŞ: ŞUBAT 2016

**YENİ TEKNOLOJİYE UYGUN TELEVİZYONLAR İÇİN GÜÇ KAYNAĞI OPTİMİZASYONU**  
ARCELİK A.S. DESTEKLİ  
BAŞLANGIÇ: TEMMUZ 2012 / BİTİŞ: NİSAN 2013

**PARÇACIK SÜRÜ OPTİMİZASYONU VE YAPAY SINIR AĞLARI İLE ELEKTRONİK DEVRE TASARIM OTOMASYONU**  
YILDIZ TEKNİK UNIVERSİTESİ BİLİMSEL ARAŞTIRMA PROJELERİ KOORDİNATÖRLÜĞÜ DESTEKLİ  
BAŞLANGIÇ: MAYIS 2010 / BİTİŞ: MAYIS 2012

**KISA KANALLI CMOS DEVRELERİN YAPAY SINIR AĞLARI İLE ÜRETİM TEKNOLOJİ PARAMETRELERİNDEN BAĞIMSIZ TASARIMI**  
YILDIZ TEKNİK UNIVERSİTESİ BİLİMSEL ARAŞTIRMA PROJELERİ KOORDİNATÖRLÜĞÜ DESTEKLİ  
BAŞLANGIÇ: TEMMUZ 2006 / BITİŞ: NISAN 2009

**GENEL AMAÇLI BİR YAPAY SINIR AĞININ KARMA BİR DONANIMLA GERÇEKLENMESİ**  
TÜBİTAK 1001 PROGRAMI DESTEKLİ  
BAŞLANGIÇ: AĞUSTOS 2005 / BITİŞ: AĞUSTOS 2008

**YAPAY SINIR AĞLARININ YSA TIP ALANINDA KULLANIMININ ARAŞTIRILMASI**  
YILDIZ TEKNİK UNIVERSİTESİ BİLİMSEL ARAŞTIRMA PROJELERİ KOORDİNATÖRLÜĞÜ DESTEKLİ  
BAŞLANGIÇ: NISAN 2004 / BITİŞ: NISAN 2005

## **AKADEMİK YAYINLAR**

### **SCI-SCI EXPANDED DERGİLERDE YAYINLANMIŞ MAKALELER:**

- 1) Toprak, S., **Vural, R.A.**, Batur, O.Z., “High Accuracy Potentiostat with Wide Dynamic Range and Linearity”, **AEU - International Journal of Electronics and Communications, Elsevier**, 142, 154018, 2021.
- 2) Yildirim, O., **Vural, R.A.**, Diepold, K., “Improving Coverage Method of Autonomous Drones for Environmental Monitoring”, **Turkish Journal of Electrical Engineering and Computer Sciences**, 28(6), 3352-3367, 2020.
- 3) Mohammed, M.S., **Vural, R.A.**, “Evolutionary Design Automation of High Efficiency Series Resonant Converter for Photovoltaic Systems”, **IEEE Transactions on Power Electronics**, 35(11), 11332-11343, 2020.
- 4) Goksu, O.F., Arabul, A.Y, **Vural, R.A.**, “Low Voltage Battery Management System with Internal Adaptive Charger and Fuzzy Logic Controller”, **Energies**, 13(9), 2221, 2020.
- 5) Mohammed, M.S., **Vural, R.A.**, “NSGA-II+FEM Based Loss Optimization of Three-Phase Transformer”, **IEEE Transactions on Industrial Electronics**, 66(9), 7417-7425, 2019.
- 6) **Vural, R.A.**, Kahraman N., Erkmen B., Yildirim T., ”ANN Based Technology Independent Design Methodology for Static Characterization of Current Steering CMOS DAC”, **International Journal of Electronics, Taylor&Francis**, 102, 1-22, 2015.
- 7) Erkmen B., **Vural R.A.**, Kahraman N., Yildirim T., ”A Mixed Mode Neural Network Circuitry for Object Recognition Application”, **Circuits, Systems & Signal Processing, Springer**, 32(1): 29-46, 2013.
- 8) **Vural R.A.**, Bozkurt U., Yildirim T., “Analog active filter component selection with nature inspired metaheuristics, **AEU - International Journal of Electronics and Communications, Elsevier**, 67: 197-205, 2013.
- 9) **Vural R.A.**, Yildirim T., Kadioglu T. and Basargan A., “Performance Evaluation of Evolutionary Algorithms for Optimal Filter Design” **IEEE Transactions on Evolutionary Computation**, 16(1):135-147, 2012.
- 10) **Vural R.A.**, Yildirim T., “Analog Circuit Sizing via Swarm Intelligence”, **AEU - International Journal of Electronics and Communications, Elsevier**, 66:732-740, 2012.

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- 11) **Vural, R.A.**, Der, O., Yildirim, T., "Investigation of Particle Swarm Optimization for Switching Characterization of Inverter Design" **Expert Systems with Applications**, Elsevier, 38(5): 5696-5703, 2010.
- 12) Erkmén, B., Kahraman, N., **Vural, R.A.**, Yildirim, T., "Conic Section Function Neural Network Circuitry For Offline Signature Recognition" **IEEE Transactions On Neural Networks**, 21(4):667 – 672, 2010.
- 13) **Vural R.A.**, Der O., Yildirim T., "Particle swarm optimization based inverter design considering transient performance" **Digital Signal Processing**, Elsevier, 20(4):1215-1220, 2010.
- 14) **Vural R.A.**, Ozyilmaz L., Yildirim T., "A Comparative Study on Computerized Diagnostic Performance of Hepatitis Disease Using ANNs" **Lecture Notes in Computer Science**, Publisher: Springer, ISSN: 0302-9743 Subject: Computer Science, 4114/2006:1177 -1182, 2006.

### DIĞER ENDEKSLİ VE HAKEMLİ DERGİLERDE YAYINLANMIŞ MAKALELER:

- 1) Akman, V.M., **Vural, R.A.**, Koc, K.T., "Touchless Authentication System Using Visual Fingertip Trajectories" **Electrica**, 20(2): 143-152, 2020.
- 2) Goksu, O.F., **Vural, R.A.**, "Ayrıstırmalı Yükseltici Tip Güç Donusturucusu için Gerçek Zamanlı Mikrodenetleyicili Kontrolcü Tasarımı", **Muhendislik Bilimleri ve Tasarım Dergisi**, 282-293, 2018.
- 3) **Vural R. A.**, Sert M. Y., Karaköse B., "Gerçek Zamanlı Sürücü Yorgunluk Tespit Sistemi", **Marmara Fen Bilimleri Dergisi**, 30(3): 249-259, 2018.
- 4) **Vural, R.A.**, Demirel, I., Erkmén B., "Design and Optimization of a Power Supply Unit for Low Profile LCD/LED TVs", **An International Journal of Optimization and Control: Theories Applications**, 7(2), 158-166, 2017.

### ULUSLARARASI HAKEMLİ KONFERANSLARDA YAYINLANMIŞ BİLDİRİLER:

- 1) Demir, G., **Vural, R.A.**, "Heuristic Trajectory Planning of Robot Manipulator", **IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT)**, Jordan, 2021.
- 2) Atas, K., **Vural, R.A.**, "Detection of Driver Distraction using YOLOv5 Network", **IEEE Global Conference for Advancement in Technology**, India, 2021.
- 3) Akboy, E. **Vural, R.A.** "Minimizing Reactive Power of DAB Converters in EPS Control with Evolutionary Computation", **10th International Conference on Renewable Energy Research and Applications**, Turkey, 2021.
- 4) Toprak, S., **Vural, R.A.**, Batur, O.Z., "Low Noise High Linearity Current Readout Topologies for Potentiostat Circuitry". **32nd IEEE International Conference on Microelectronics (MIEL 2021)** Serbia, 2021.
- 5) Göksu, Ö.F., **Vural, R.A.**, "Charger Structure with Transistor Based Isolator for Parallel Charging of Series Connected Battery Cells". **11th International Conference on Electrical and Electronics Engineering**, Bursa, Turkey, 2019.

- 6) Mohammed, M.S., **Vural, R.A.**, “High Efficiency Design of PV Array Dimension Optimization for Shaded and Non-Shaded Configuration” **IEEE Global Conference for Advancement in Technology**, India, 2019.
- 7) Yildirim, O., Diepold, K., **Vural, R.A.**, “Decision Process of Autonomous Drones for Environmental Monitoring”, **International Symposium on INnovations in Intelligent SysTems and Applications (INISTA)**, Sofia, Bulgaria, 2019.
- 8) Göksu, Ö.F., **Vural, R.A.**, “Battery Management Module with Active Balancing and Cell Switching” **6th International Conference on Control Engineering and Information Technologies**, Istanbul, Turkey, 2018.
- 9) Demir, G., **Vural, R.A.**, “Speed Control Method Using Genetic Algorithm for Permanent Magnet Synchronous Motors”, **6th International Conference on Control Engineering and Information Technologies**, Istanbul, Turkey, 2018.
- 10) Aliyev, I., Mısırlı C., Öztürk, S., Mahmurat, E., Erkek A., Kök S., Koçyigit, D. Uzun, S., **Vural, R.A.** “Design of solar powered subscale glider for CanSat competition” 8th International Conference on Recent Advances in Space Technologies (RAST), Istanbul, Turkey, 2017.
- 11) Tanrıseven, S., Can, H., Topal, U., Birlikseven, C., **Vural, R.A.**, “A low cost and simple fluxgate magnetometer implementation”, **2015 International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (SMACD)**, Istanbul, Turkey, 2015.
- 12) **Vural, R.A.**, Ayten U.E., “Evolutionary Algorithms based Analog Filter Approximation and Implementation”, **2014 IEEE International Symposium on Innovations in Intelligent Systems and Applications (INISTA) Proceedings**, Bari, Italy, 2014.
- 13) **Vural R.A.**, Bozkurt U., Yildirim T., “Metaheuristics Based CMOS Two-Stage Comparator Optimization”, **The World Congress on Engineering and Computer Science (WCECS 2013)**, San Francisco, USA, 2013.
- 14) **Vural R.A.**, Erkmen B., Bozkurt U., Yildirim T.,”CMOS Differential Amplifier Area Optimization with Evolutionary Algorithms”, **The World Congress on Engineering and Computer Science (WCECS 2013)**, San Francisco, USA, 2013.
- 15) **Vural, R.A.**, Ayten U.E., “Optimized Analog Filter Approximation via Evolutionary Algorithms”, **The 12<sup>th</sup> International Conference on Intelligent Systems Design and Applications (ISDA 2012)**, Kochin, India, 2012.
- 16) **Vural, R.A.** and Yildirim, T., “Swarm Intelligence Based Sizing Methodology for CMOS Operational Amplifier”, **The 12<sup>th</sup> IEEE International Symposium on Computational Intelligence and Informatics (CINTI 2011)**, Budapest, Hungary, 2011.
- 17) Ayten U.E., **Vural, R.A.** and Yildirim, T., “Low-pass Filter Approximation with Evolutionary Techniques”, **The 7<sup>th</sup> International Conference on Electrical and Electronics Engineering (ELECO 2011)**, Bursa, Turkey, 2011.
- 18) **Vural, R.A.**, and Yildirim, T., “State Variable Filter Design Using Particle Swarm Optimization”, **XI<sup>th</sup> International Workshop on Symbolic and Numerical Methods, Modeling and Applications to Circuit Design (SM2ACD 2010)**, Tunisia, 2010.
- 19) **Vural R.A.**, Yildirim T., “Optimization of Integrated Circuits using an Artificial Intelligence Algorithm”, **The 4.th Conf. on Ph.D. Research in Microelectronics and Electronics (PRIME08)**, pp. 13-15, Istanbul, Turkey, June 2008.

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- 20) **Vural R.A.**, Kahraman N., Erkmen B. , Yildirim T., “Object Recognition on General Purposed Conic Section Function Neural Network Integrated Circuit”, **IEEE 16th Signal Processing, Communication and Applications Conference (SIU 2008)**, pp 1-4, Turkey, April 2008.
- 21) Erkmen B., Kahraman N., **Vural R.A.**, Yildirim T., “CSFNN Optimization of Signature Recognition Problem for a Special VLSI NN Chip”, **The 3rd International Symposium on Communications, Control and Signal Processing (ISCCSP 2008)**, pp. 1082-1085, St. Julians Malta, March 2008.
- 22) **Vural R.A.**, Kapanoglu B., "Efficient Training of Recurrent Neural Nets for Macromodeling p-MOSFET at Microwave Frequencies Using Levenberg-Marquardt Learning Algorithm", **The 9th International Conference on Engineering Applications of Neural Networks (EANN05)**, pp: 171-178, Lille France, 24-26 August 2005.
- 23) Kapanoglu B., **Acar R.**, Sengor N.S., "Macromodeling P-MOSFET at Microwave Frequencies Using Elman Network", **Applied Electronics 2004, International Conference**, pp: 105-108, Pilsen Czech Republic, 8-9 September, 2004.

## AKADEMİK ÜYELİKLER

TÜRKİYE TENİS FEDERASYONU YAPAY ZEKA VE TEKNOLOJİ KURULU

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

INT. ASSOCIATION OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY (IACSIT)

## AKADEMİK FAALİYETLER

DÜZCE ÜNİVERSİTESİ BİLİM VE TEKNOLOJİ DERGİSİ  
ALAN EDITÖRÜ  
AĞUSTOS 2021- (DEVAM EDİYOR)

YTÜ IEEE ÖĞRENCİ KULÜBÜ  
AKADEMİK DANIŞMAN  
ŞUBAT 2021- (DEVAM EDİYOR)

YTÜ UZAY VE AVİYONİK SİSTEMLER KULÜBÜ  
AKADEMİK DANIŞMAN  
ŞUBAT 2017- (DEVAM EDİYOR)

## AKADEMİK TANINIRLIK

TOPLAM ATIF SAYISI (WEB OF SCIENCE): 238

H-İNDEKSİ (WEB OF SCIENCE): 7