

## Asst. Prof. İBRAHİM SAVRAN

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: FTP-8591-2022

Yoksis Researcher ID: 233798

### Education Information

Doctorate, University of South Carolina, Computer Science And Engineering, Bilgisayar Muhendisligi, United States Of America 2009 - 2014

Postgraduate, Karadeniz Technical University, Mühendislik Mimarlık, Bilgisayar Mühendisliği, Turkey 2003 - 2006

Undergraduate, Selcuk University, Mühendislik Mimarlık, Bilgisayar Mühendisliği, Turkey 1999 - 2003

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, High Performance Metagenomic Gene Identification, University of South Carolina, Computer Science And Engineering, Bilgisayar Muhendisligi, 2014

Postgraduate, Anahtarlama Fonksiyonlarını Sadeleştirme Algoritmaları, Selcuk University, Mühendislik Mimarlık Fakültesi, Bilgisayar Muhendisligi, 2006

### Research Areas

Computer Sciences, bioinformatics, Equipment, Engineering and Technology

### Academic Titles / Tasks

Research Assistant, Karadeniz Technical University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2014 - Continues

Instructor, University of South Carolina, Computer Science And Engineering, Bilgisayar Muhendisligi, 2012 - 2014

Research Assistant, University of Tennessee, Knoxville, Mühendislik Fakültesi, Bilgisayar Muhendisligi, 2011 - 2011

Research Assistant, Selcuk University, Mühendislik Mimarlık Fakültesi, Bilgisayar Muhendisligi, 2004 - 2007

### Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Two-Stage Energy Management of Multi-Smart Homes With Distributed Generation and Storage**  
Tezde E. I., OKUMUŞ H. İ., SAVRAN İ.  
ELECTRONICS, vol.8, no.5, 2019 (SCI-Expanded)
- II. **Large-Scale Pairwise Sequence Alignments on a Large-Scale GPU Cluster**  
Savran I., Gao Y., Bakos J. D.  
IEEE DESIGN & TEST, vol.31, no.1, pp.51-61, 2014 (SCI-Expanded)
- III. **Spontaneous emergence of a persistent spin helix from homogeneous spin polarization**  
Slipko V. A., Savran I., Pershin Y. V.  
PHYSICAL REVIEW B, vol.83, no.19, 2011 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Spintronik Sistemlerin Monte Carlo Simülasyonu**  
SAVRAN İ.  
Uludağ Üniversitesi MMF Dergisi, vol.16, no.2, pp.75-84, 2011 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Donanım Tanımlama Dili VHDL ve FPGA Uygulamaları**  
SAVRAN İ.  
Papatya Yayıncılık, İstanbul, 2017
- II. **High-performance Metagenome Gene Identification Processing - Big Data in Bioinformatics with Super Computers-**  
SAVRAN İ.  
Lambert Academic Publishing, Saarbrücken, 2016
- III. **High Performance Metagenome Gene Identification**  
SAVRAN İ.  
Lambert Academic Publishing, 2016

## Refereed Congress / Symposium Publications in Proceedings

- I. **Detecting point mutations in next generation sequencing data**  
SAVRAN İ., ERCİN M. E., CELEP EYÜPOĞLU F.  
International Conference on Advanced Technologies Computer engineering and Science, 26 - 28 April 2019
- II. **Manuel Quadcopter'in Otonom Uçabilmesi için Bulanık Uçuş Kontrolör Tasarımı**  
HACIMUHAMMED Z., SAVRAN İ., HÜLAGÜ F.  
2018 International Conference on Artificial Intelligence and Data Processing (IDAP), Malatya, Turkey, 28 - 30 September 2018
- III. **Realization of Quantum Fourier Transform on FPGAs**  
Savran İ., Demirci M., Yılmaz A. H.  
5TH INTERNATIONAL CONFERENCE ON COMPUTATION FOR SCIENCE AND TECHNOLOGY (ICCST2018), Antalya, Turkey, 23 - 26 September 2018, pp.24
- IV. **Accelerating Gene Identification in DNA Sequences with CUDA and OpenCL**  
SAVRAN İ., ARAS E., Uzer G., Abdi S.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- V. **Copy Move Forgery Detection with Using FAST Key Points and SIFT Description Vectors**  
Mumcu A., SAVRAN İ.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018

- VI. **A New Error Correction Algorithm for Genome Sequences and the Performance of the Implementation**  
ARAS E., SAVRAN İ., Abdi S., Uzer G.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- VII. **Accelerating Quantum Fourier Transform on GPUs**  
Savran İ., Demirci M., Yılmaz A. H.  
Turkish Physical Society 33rd International Physics Congress, Muğla, Turkey, 6 - 10 September 2017, pp.414
- VIII. **Designing Ternary Quantum Operators for Grover's Search Algorithm with FPGAs**  
Demirci M., Savran İ., Yılmaz A. H.  
Turkish Physical Society 33rd International Physics Congress, Muğla, Turkey, 6 - 10 September 2017, pp.418
- IX. **DESIGNING TERNARY QUANTUM OPERATORS FOR GROVER'S SEARCH ALGORITHM WITH FPGAs**  
SAVRAN İ., DEMİRCİ M., YILMAZ A. H.  
TFD 33. Uluslararası Fizik Kongresi, Muğla, Turkey, 6 September - 10 November 2017, pp.418
- X. **ACCELERATING QUANTUM FOURIER TRANSFORM ON GPUS**  
SAVRAN İ., DEMİRCİ M., YILMAZ A. H.  
TFD 33. Uluslararası Fizik Kongresi, Muğla, Turkey, 6 September - 10 November 2017, pp.414
- XI. **Yeni Nesil Dna Sekanslamayla Okunan Dna Sekanslarındaki Hataların Cuda ile Hizli Düzeltilmesi**  
SAVRAN İ.  
25. SİNYAL İŞLEME ve İLETİŞİM UYGULAMALARI KURULTAYI, Antalya, Turkey, 17 - 19 May 2017, vol.25, no.1, pp.1
- XII. **Accelerating Next Generation Sequencing Read Errors Correction With CUDA**  
Unal U. H., SAVRAN İ.  
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- XIII. **GPU kullanarak Metagenom Genlerinin Saptanması**  
SAVRAN İ.  
Genç Mühendisler Sempozyumu, İstanbul, Turkey, 6 - 07 May 2016, pp.5-10
- XIV. **FPGA Kullanarak Hızlı DNA Hizalama**  
SAVRAN İ.  
Genç Mühendisler Sempozyumu, İstanbul, Turkey, 6 - 07 May 2016, pp.1-5
- XV. **HPMA: High-performance Metagenomic Alignment Tool, on a Large-Scale GPU Cluster**  
SAVRAN İ., Rose J. R.  
IEEE International Conference on Bioinformatics and Biomedicine - Medical Informatics and Decision Making, Washington, Kiribati, 9 - 12 November 2015, pp.629-634
- XVI. **GPU Acceleration of Near-Minimal Logic Minimization**  
SAVRAN İ., Bakos J. D.  
Symposium on Application Accelerators in High Performance Computing (SAAHPC'10), Tennessee, United States Of America, 13 - 15 July 2010, vol.1, no.1, pp.1-6
- XVII. **O(n) Karmaşıklaşımında Anahtarlar Fonksiyonlarını Sadeleştirme Algoritması**  
Kahramanlı Ş., Başçiftçi F., SAVRAN İ.  
4th International Advanced Technologies Symposium, Konya, Turkey, 28 - 30 September 2005, vol.1, no.1, pp.214-219

## Supported Projects

SAVRAN İ., TUBITAK Project, Mobil uygulama ile sevilen müzik eşliğinde yabancı dil kelime hazinesini geliştirmek, 2016 - Continues

YILMAZ A. H., BAYRAM T., SAVRAN İ., CİNAN Z. M., EROL B., DEMİRCİ M., Project Supported by Higher Education Institutions, XI INTERNATIONAL CONFERENCE ON NUCLEAR STRUCTURE PROPERTIES, 2018 - 2019

## **Scientific Refereeing**

TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES , National Scientific Refreed Journal,  
November 2016

## **Scientific Consultations**

Tubitak TEYDEP, Project Consultancy, Karadeniz Technical University, Mühendislik Fakültesi, Bilgisayar Mühendisliği,  
Turkey, 2016 - 2016

## **Metrics**

Publication: 24

Citation (WoS): 22

Citation (Scopus): 24

H-Index (WoS): 2

H-Index (Scopus): 3

## **Congress and Symposium Activities**

The IEEE International Conference on Bioinformatics and Biomedicine (BIBM 2015) / "HPMA: High-performance Metagenomic Alignment Tool, on a Large-Scale GPU Cluster", Attendee, Maryland, United States Of America, 2015