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Education Information

Doctorate, Syracuse University, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, United States Of America 2001 - 2005
Postgraduate, Syracuse University, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, United States Of America 1999 - 2001
Undergraduate, Selcuk University, Faculty Of Engıneerıng, Elektrik Elektronik Mühendisliği Bölümü, Turkey 1993 - 1997

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, Reliability-centric system design for embedded systems, Syracuse University, Computer Engineering, 2005

Research Areas

Computer Sciences, Equipment, Logic Design, Engineering and Technology

Academic Titles / Tasks

Professor, Hacettepe University, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, 2019 - Continues

Advising Theses

TOSUN S., Arıza kaldırabilir yonga-üstü-ağlar için topoloji oluşturma, uygulama eşleme ve yönlendirme algoritmalarının tasarlanması, Postgraduate, V.BABAEI(Student), 2015
TOSUN S., Hareketli kameralarda hareketli nesnelerin tespiti ve sınıflandırılması, Postgraduate, Ö.MERCANOĞLU(Student), 2015
TOSUN S., Örgü topoloji temelli yonga-üstü-ağlarda enerji tüketimini azaltacak uygulama eşleme tekniklerinin oluşturulması, Postgraduate, M.ÖZEN(Student), 2011
TOSUN S., Evrensel aydınlatmada kullanılan foton haritalama yönteminin paralelleştirilmesi, Postgraduate,

Y.YAVUZ(Student), 2009

Published journal articles indexed by SCI, SSCI, and AHCI

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III. **Integer linear programming-based optimization methodology for reliability and energy-aware high-level synthesis**
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VII. **HAFTA: Highly adaptive fault-tolerant routing algorithm for two-dimensional network-on-chips**
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VIII. **ILP formulation and heuristic method for energy-aware application mapping on 3D-NoCs**
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IX. **Library Characterization of Arithmetic Circuits for Reliability-Aware Designs in SRAM-Based FPGAs**
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XV. **Fault-Tolerant Topology Generation Method for Application-Specific Network-on-Chips**
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XVI. **Energy reduction in 3D NoCs through communication optimization**
Ozturk O., AKTURK I., KADAYIF İ., Tosun S.
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XVII. **Application mapping algorithms for mesh-based network-on-chip architectures**
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XVIII. **Energy- and reliability-aware task scheduling onto heterogeneous MPSoC architectures**
Tosun S.
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XIX. **Application-specific topology generation algorithms for network-on-chip design**
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XXII. **FIT: Fast Irregular Topology generation algorithm for application specific NoCs**
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XXIII. **Diagnosis of heart disease using artificial immune recognition system and fuzzy weighted pre-processing**
POLAT K., GÜNEŞ S., Tosun S.
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Articles Published in Other Journals

I. **Im Improving Memory proving Space Utilization in Multi coreEmbedded Systems using Task Recomputation**
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II. **Hilbert Curve Based Bucket Ordering for Global Illumination**
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III. **Formal verification of pipelined synthesized designs by exploiting intermediary RTLs**
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Books & Book Chapters

I. **Enabling Network Security in HPC Systems Using Heterogeneous CMPs**
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Refereed Congress / Symposium Publications in Proceedings

I. **Towards QoS-Aware Resource Allocation in Fog Computing: A Theoretical Model**
DİLEK S., Oracevic A., TOSUN S., ÖZDEMİR S.
2022 International Symposium on Networks, Computers and Communications, ISNCC 2022, Shenzhen, China, 19 - 21 July 2022

II. **Q-Learning-based Routing Algorithm for 3D Network-on-Chips**
Bolucu N., TOSUN S.
24th International Symposium on Design and Diagnostics of Electronic Circuits and Systems (DDECS), ELECTR NETWORK, 7 - 09 April 2021, pp.33-36

III. **Number Analysis and Operator Detection in Telecommunication Systems**
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ÜNAL M., BOSTANCI G. E., SERTALP E., TOSUN S.
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V. **Energy-Aware Application-Specific Topology Generation for 3D Network-on-Chips**
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2017 20TH IEEE INTERNATIONAL SYMPOSIUM ON DESIGN AND DIAGNOSTICS OF ELECTRONIC CIRCUIT SYSTEMS (DDECS), Dresden, Germany, 19 - 21 April 2017, pp.84-87

VI. **Improving Combinational Circuit Resilience against Soft Errors via Selective Resource Allocation**
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VII. **FPGA implementation of a fault-tolerant application-specific NoC design**
Yesil S., TOSUN S., Ozturk O.
11th IEEE International Conference on Design and Technology of Integrated Systems in Nanoscale Era, DTIS 2016, İstanbul, Turkey, 12 - 14 April 2016

VIII. **Moving object detection by a mounted moving camera**
Sincan O. M., Ajabshir V. B., Keles H., TOSUN S.
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IX. **Moving Object Detection by a Mounted Moving Camera**
Sincan O. M., Ajabshir V. B., Keles H., TOSUN S.
International Conference on Computer as a Tool (EUROCON), IEEE, Salamanca, Mexico, 8 - 11 September 2015, pp.334-339

X. **Fault-Tolerant Irregular Topology Design Method for Network-on-Chips**
Tosun S., Ajabshir V. B., Mercanoglu O., Ozturk O.
17th Euromicro Conference on Digital System Design (DSD), Verona, Italy, 27 - 29 August 2014, pp.631-634

XI. **Fault-Tolerant Routing for Irregular-Topology-based Network-on-Chips**
Ajabshir V. B., TOSUN S.
International Symposium on Computing and Networking CANDAR, Shizuoka, Japan, 10 - 12 December 2014, pp.123-129

XII. **Power-aware topology generation for application specific NoC design**
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2012 6th International Conference on Application of Information and Communication Technologies, AICT 2012, Tbilisi, Georgia, 17 - 19 October 2012

XIII. **Genetic algorithm based NoC design with voltage/frequency islands**
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2011 5th International Conference on Application of Information and Communication Technologies, AICT 2011, Baku, Azerbaijan, 12 - 14 October 2011

XIV. **TopGen: A new algorithm for automatic topology generation for network on chip architectures to reduce power consumption**
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XV. **An ILP formulation for application mapping onto Network-on-Chips**
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XVII. **Foton Haritalama Algoritmasının Evrensel Aydınlatma Amaçlı ParalellestirilmesiParallelization of Photon Mapping Algorithm for Global Illumination**
YAVUZ Y., TOSUN S.
The National Symposium on Electrical-Electronics and Computer Engineering, ELECO 2008, Turkey, 26 - 30 November 2008

XVIII. **Yonga Üstü Heterojen Çok slemciler çin Enerji Verimli s Parçacıgı EslemesiTask Scheduling On Heterogeneous Chip Multiprocessors for Reducing Energy**
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XIX. **Multi-level on-chip memory hierarchy design for embedded chip multiprocessors**
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XXII. **A Novel Essential Prime Implicant Identification Method for Exact Direct Cover Logic Minimization**
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XXIII. **Using Task Recomputation During Application Mapping in Parallel Embedded Architectures**
TOSUN S., KANDEMIR M., KOÇ H.
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XXIV. **An ILP based approach to address code generation for digital signal processors**
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XXV. **Reliability-conscious process scheduling under performance constraints in FPGA-based embedded**

systems

CHEN G., KANDEMIR M., Tosun S., Sezer U.

19th IEEE International Parallel and Distributed Processing Symposium, IPDPS 2005, Denver, CO, United States Of America, 4 - 08 April 2005, vol.2005

XXVI. **On Chip Memory Management for Embedded MpSoC Architectures Based on Data Compression**

ÖZTÜRK Ö., KANDEMIR M., IRWIN M. J., TOSUN S.

2005 Joint 30th International Conference on Infrared and Millimeter Waves and 13th International Conference on Terahertz Electronics, Herndon, VA, USA, 19 - 23 September 2005

XXVII. **Constraint based Code mapping for heterogeneous Chip multiprocessors**

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XXVIII. **An ILP formulation for reliability-oriented high-level synthesis**

Tosun S., OZTURK O., MANSOURİ N., ARVAS E., KANDEMIR M., XIE Y., HUNG W.

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XXIX. **Reliability-centric hardware/software co-design**

Tosun S., Mansouni N., ARVAS E., KANDEMIR M., XIE Y., HUNG W.

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XXX. **Reliability-centric high-level synthesis**

Tosun S., MANSOURİ N., ARVAS E., KANDEMIR M., XIE Y.

Design, Automation and Test in Europe Conference and Exhibition (DATE 05), Munich, Germany, 7 - 11 March 2005, pp.1258-1263

XXXI. **Deriving Intermediary RTLs for Verification of Pipelined Synthesized Designs**

TOSUN S., KOÇ H., MANSOURİ N.

nternational Conference on VLSI (VLSI'03), 23 - 26 July 2003

Supported Projects

TOSUN S., Barzinmehr A., Project Supported by Higher Education Institutions, 3D Yonga üstü Ağlar için Enerji Farkındalıklı Uygulamaya Özgü Topoloji Oluşturma, 2017 - 2017

TOSUN S., ÖZTÜRK Ö., YEŞİL Ş., Project Supported by Higher Education Institutions, Hata Kaldırabilen Uygulamaya Özgü NoC Tasarımının FPGA Gerçekleştirimi, 2016 - 2016

TOSUN S., Industrial Thesis Project, Algılayıcı Ağı ve Kamera Temelli Hibrid Kritik Alan İzleme Sistemi Geliştirilmesi, 2013 - 2016

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Metrics

Publication: 60

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