



Alp Arslan Bayrakçi

Gebze Technical University
Cayirova Campus, 41400
Department of Computer Engineering
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Date of Birth: July 24, 1982
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EDUCATION

Direct Ph.D., Koc University, Istanbul

Sep 2004 - October 2010

Department: Computer Engineering

Thesis Topic: Statistical Timing Analysis of Digital Circuits

Advisor: Assoc. Prof. Serdar Tasiran & Assoc. Prof. Alper Demir

GPA: 3.94/4.00

Full Scholarship Grad. Student

B.S., Middle East Technical University (METU), Ankara

Sep 2000 - June 2004

Department: Electrical and Electronics Engineering

GPA: 3.18/4.00

Graduated as a Honour Student.

Emphasis on digital electronics and computer

Huseyin Avni Sozen Anatolian High School

Sep 1993 - June 2000

GPA: 4.75/5.00

HONORS &
AWARDS

The Scientific & Technological Research Council of Turkey (TUBITAK)

1002 Short Term R&D Funding Program, Project No:116E296, Grant: \$8,200 (USD),
2016-2017

The Scientific & Technological Research Council of Turkey (TUBITAK)

3501 National Young Researchers Career Development Program, Project No:112E237,
Grant: \$67,000 (USD), 2013-2015

The Vehbi Koc Foundation

Tuition Fee + Full Scholarship, 2004-2010

The Scientific & Technological Research Council of Turkey (TUBITAK)

Scholarship (BIDEB), 2005-2009

Department of Electrical and Electronics Engineering, Middle East Technical University (METU)

Certificate of Achievement for Creative Implementation of Design Specifications, June
2004

National Exams

University Entrance Examination of Turkey(OSS)

Ranked 549 out of approximately two million high school seniors, June 2000

Science High School Entrance Examination of Turkey

Ranked 305 nation-wide, June 1997

Foreign Language Test (YDS)

92.5 out of 100, Spring 2016

TEACHING
EXPERIENCE

**Assistant Professor at Gebze Technical University
(Formerly named as Gebze Institute of Technology)**

2011-

Computer Programming with C CSE102
Logic Circuits & Digital Design CSE232
Computer Organizations CSE331
Microprocessors CSE334
Embedded Systems CSE433
Digital Integrated Circuits CSE436/CSE536
Advanced Computer Architecture CSE531

Teaching Assistant (TA) in Koc University

2004-2010

Computer Architecture COMP303
Digital Systems Design ELEC204
Introduction to Digital Integrated Circuits ELEC311

RESEARCH
INTERESTS

Digital Design, Hardware Trojan Horse Detection, Development of Computer Aided Design (CAD) Tools for Analysis of Digital Circuits, Monte Carlo Methods, Deterministic and Statistical Timing Analysis, Design for Yield, Variation modeling, Computer Architecture, Engineering Education.

PUBLICATIONS

Journal Papers

1. Alp Arslan Bayrakci, "Accelerated Accurate Timing Yield Estimation Based on Control Variates and Importance Sampling", *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, doi: 10.1109/TVLSI.2016.2521541, (Early Access), pp. 1-12, Feb. 2016
2. Alp Arslan Bayrakci, "Stochastic Logical Effort as a Variation Aware Delay Model to Estimate Timing Yield", *Integration, The VLSI Journal (Elsevier)*, vol. 48, pp. 101-108, doi: 10.1016/j.vlsi.2014.07.003, Jan. 2015
3. Alp Arslan Bayrakci, Alper Demir, and Serdar Tasiran, "Fast Monte Carlo Estimation of Timing Yield With Importance Sampling and Transistor-Level Circuit Simulation", *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, doi: 10.1109/TCAD.2010.2049042, vol. 29, no. 9, pp. 1328-1341, Sept. 2010
4. (Emerging SCI) Alp Arslan Bayrakci, "FPGA Based Low Cost Automatic Test Equipment for Digital Circuits", *Electrica*, 19(1), 12-21, 2019

Conference Papers

1. Fatma Nur Esirci and Alp Arslan Bayrakci, "Acceleration of Spatial Correlation Based Hardware Trojan Detection Using Shared Grids Ratio" *International Conference on Mathematical Aspects of Computer and Information Sciences*, pp. 187-201. Springer, Cham, 2019.
2. Mehmet Kocabas and Alp Arslan Bayrakci, "Quantification of Power Based Hardware Trojan Detection Under Realistic Variations and Separation of Power Supplies" *11th International Conference on Electrical and Electronics Engineering (ELECO)*, pp. 522-526. IEEE, 2019.
3. Alp Arslan Bayrakci, "ELATE: Embedded low cost automatic test equipment for FPGA based testing of digital circuits" *10th International Conference on Electrical and Electronics Engineering (ELECO)*, pp. 1281-1285. IEEE, 2017.
4. F. N. Esirci, A. A. Bayrakci, "Hardware Trojan Detection Based on Correlated Path Delays in Defiance of Variations with Spatial Correlations", *Design, Automation and Test in Europe (DATE)*, pp. 163-168, March 2017
5. Alp Arslan Bayrakci, "On the Accuracy of Monte Carlo Yield Estimators", *IFIP/IEEE 21st International Conference on Very Large Scale Integration (VLSI-SoC 2013)*, pp. 56-57, Oct. 2013
6. Alp Arslan Bayrakci, Ahmet Akkas, "Reduced Delay BCD Adder". *IEEE International Conf. on Application-specific Systems, Architectures and Processors (ASAP 2007)*. Volume-Issue: 9-11, July 2007, pp. 266-271
7. (National Conference) Huseyin Ulutas, Alp Arslan Bayrakci, "HCS12 EmumiS: Virtual HCS12 Development Tool", *Elektrik-Elektronik, Bilg. ve Biyomed. Muh. Semp. (ELECO)*, October 28, 2014