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Saman Kiamehr

Objective:

Pursuing PhD Degree in Electrical Engineering

Education:

Fall 2007 – Fall 2010 **University of Tehran** **Tehran, Iran**

M.Sc., Circuits and systems, Electronics, Electrical and Computer Engineering.
Thesis: Techniques for Reducing Process Variation Effects in Digital Circuits in Nanotechnology.
Advisor: Prof. Ali Afzali-Kusha
GPA: 19.14/20

Fall 2001 – Sept. 2007 **Sharif University of Technology** **Tehran, Iran**

B.Sc., Electronics, Electrical Engineering.
Thesis: ARM Processor Simulation. (score: 19.5/20)
Advisor: Prof. Bijan Vosughi-Vahdat
GPA: 13.3/20

Fall 2000 – May 2001 **NODET* Pre-University institute** **Karaj, Iran**

Pre-University Certificate in Mathematics and Physics.
GPA: 19.8/20 (first rank)

Fall 1997 – May 2000 **NODET High School** **Karaj, Iran**

High School Diploma in Mathematics and physics
GPA: 19.64/20 (first rank)

* NODET: National Organization for Development of Exceptional Talents.

Research Interests:

- Design and Optimization Techniques to reduce Variation in Nano-scale era.
- Low-Power, High-Performance, Digital Circuits and Systems Design.
- Mixed Signal Integrated Circuits and Systems.
- Computer-Aided Design of VLSI Circuits and Systems.
- Emerging Nano-Scale Issues in Scaled CMOS Technologies.

Current Research:

M.Sc. Thesis: Techniques for Reducing Process Variation Effects in Digital Circuits in

Nanotechnology.

Advisor: Prof. Ali Afzali-Kusha

- 1) Proposing a low runtime SSTA method considering Within-die Variation
- 2) Proposing a transient fault model considering process variation

Publications:

1. **Saman Kiamehr**, A.Ahmadi Mehr, A.Afzali Kusha," A Block-Based SSTA Method Considering Within-die Variation", accepted to ASQED 2010.
2. F.Firouzi, **Saman Kiamehr**, P. Monshizadeh Naini, A. Afzali. Kusha, S. M. Fakhraie " A Model for Transient Fault Propagation Considering Glitch Amplitude and Rise-Fall Time Mismatch", accepted to ASQED 2010.

Accomplished Projects and Term Papers:

- Investigating on extraction of Strain Silicon current model, Fall 2008.
- Design of a 50 MS/sec Sample & Hold Circuit, Having THD better than 74dB in different corners in 0.18 μ m Technology, Fall 2007.
- Design of high precision Voltage Band Gap in 0.18 μ m Technology, Fall 2007.
- Characterization of short channel effect in carbon nanotube transistors with Doped Reservoirs, Spring 2008.
- A circuit technique for reduced leakage current in Deep Submicron CMOS technologies, Spring 2008.
- Modification of Gate Tunneling Leakage Model Parameters for 90nm, 65nm, 45nm, and 32nm Predictive Technology Models (PTMs), Spring 2008.
- Design and Implementation of Stepper Motor Driver with 8085 Microprocessor, Fall 2003

Research Experiences:

Oct. 2006 – Present

University of Tehran

Research Assistant, *Low-Power, High-Performance, Nano-Systems Laboratory*

Advisor: *Prof. Ali Afzali-Kusha*

<http://nanolab.ut.ac.ir>

- Statistical timing analysis methods.
- Statistical delay, power, yield modeling.
- Performance estimation of digital circuits using circuit simulators.
- Low-power and high performance digital circuit and system design in deep sub-micron technologies.
- Modification gate leakage model parameters of Predictive Technology Models (PTMs)
- Layout extraction and post-layout performance estimation.

- Standard cell layout design and characterization.
- Synthesis of Verilog codes under different optimization criteria and post synthesis verification
- Automatic placement and routing of a digital net-list.
- Effects of PVT process corners on performance of a circuit.
- Verilog Switch-level modeling of digital circuits.
- MATLAB and Simulink system level modeling and computer simulations.
- Comparing different proposed low-power logic styles.
- Advanced MOSFET I-V Modeling.

M.Sc. Courses:

Low-Power Integrated Circuits (20/20)
 Advanced VLSI (17.5/20)
 Analog Integrated Circuits Design (17.7/20)
 Quantum Computing (20/20)
 Nano Devices and Their Integration (20/20)
 Semiconductor Devices (19.5/20)
 SOI Devices and Circuits (19.5/20)
 Opto-Electronic (19/20)
 MSc Seminar (19.5/20)
 MSc Thesis (19/20)

Course Presentations:

- “Statistical Timing Analysis in Nanotechnology Circuits”, Presentation in *MSc Seminar Course*, University of Tehran, September. 2009.
- “Sollar Cells and their applications,” Presentation in *Opto-Electronic Course*, University of Tehran, Dec. 2007.
- “A 0.13 μ m CMOS EDGE/UMTS/WLAN Tri-Mode $\Delta\Sigma$ ADC with -92dB THD,” Presentation in *Analog Integrated Circuits Design Course*, University of Tehran, Dec. 2007.

Honors:

- Ranked **2nd** Among 24 M.Sc students of the Electrical/Electronics engineering of the University of Tehran, class of 2008.
- Ranked **21th** in nation-wide M.Sc. entrance exam in 2007.
- Ranked **28th** among more than 450000 students in the undergraduate entrance exam in 2001.
- Ranked **1st** in the Nation-wide final pre-university exams in the city of Karaj in 2001.
- Ranked **1st** in the Nation-wide final high school exams in the city of Karaj in 2000.

Computer Skills:

Programming Languages:

MATLAB, Simulink, Verilog HDL, Pascal, Basic, 8085/8086/8051, AVR
 Assembly Language

CAD Tools and HDL:

HSPICE, PSPICE, ORCAD, LEDIT, SEDIT, ModelSim, Synplify, Leonardo
 Spectrum.

Operating Systems and Microsoft Office:

Membership:

IEEE Student Member

Teaching Experiences:

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| 2000-2006 | Teaching Mathematics for the NODET high school students of Karj city. |
| 2006-2007 | Teaching AVR Assembly Language for high school students in Sharif school in karaj |

Extracurricular Activities and Interests:

- Executive committee member of the “**Alumni of Karaj NODET Schools**”, in the years 2001 and 2006.
- Playing Chess and Football, Hiking, Driving, Traveling, Cooking, Music, Movies.

Language Proficiency:

National Languages: Native speaker Persian, Fluent in English, familiar with Arabic.

TOEFL: 94 (IBT)

GRE: 310 Verbal, 800 Quantitative, 3 Analytical.

References:

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| ▪ Prof. Ali Afzali-Kusha | <i>Professor</i> | University of Tehran | afzali@ut.ac.ir |
| ▪ Prof. B. Forouzandeh | <i>Assistant Professor</i> | University of Tehran | bforooz@ut.ac.ir |
| ▪ Prof. B. Vosoughi-Vahdat | <i>Assistant Professor</i> | Sharif Univ. of Tech. | vahdat@sharif.edu |