Arash Fouman

Contact Information

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Research Interests

Embedded Systems, Implantable Systems, Digital Health Care System Design, Approximate Computing, Low-Power Design, Neural Networks

Education

University of Tehran, Tehran, Iran

B.S., Electrical and Computer Engineering, *Expected:* 2016

- Thesis Topic: *FPGA Realization of Better than Worst-Case Design Techniques in Pipeline Processors*
- Advisor: Z. Navabi, Ph.D

Relative Courses:

Mathematics1:	**18.75**/20(**4**/4)	Advanced Programming:	**16.5**/20(**4**/4)
Mathematics2:	**16**/20(**4**/4)	Signals & Systems:	**16.3**/20(**4**/4)
Ordinary Differential Equations:	**17**/20(**4**/4)	Filter & Circuit Synthesis:	**16**/20(**4**/4)
Digital Logic Design:	**17.1**/20(**4**/4)	Computer Architecture:	**17.6**/20(**4**/4)
D.L.D. Lab:	**19.5**/20(**4**/4)	C.A. Lab:	**18.25**/20(**4**/4)
Electronics I:	**17**/20(**4**/4)	Microprocessors:	**17**/20(**4**/4)
Electronics Lab I:	**18**/20(**4**/4)	Microprocessors Lab:	**17**/20(**4**/4)
Electronics Lab II:	**18.25**/20(**4**/4)	HW/SW Codesign:	**15.5**/20(**3**/4)
VLSI:	**16**/20(**4**/4)	Computer Workshop:	**18.75**/20(**4**/4)
VLSI & Digital Electronics Lab:	**19.5**/20(**4**/4)		

- Overall GPA = **15.12**/20(Equivalent to **B**) [with School Average = **13.82**/20]
- GPA of Relative Courses = **17.01**/20 (Equivalent to **A**)

Danesh High School, Tehran, Iran

High school Diploma., Mathematics and Physics, 2012
GPA = **19.27**/20 *or* **4**/4

Languages

- Persian(Farsi): Native proficiency
- English: Professional working proficiency
  test scores are to be announced
- Azerbaijani: Familiar

Research Experience

Research Assistant June 2016 to present
ESL Tools & Methodologies Laboratory,
University of Tehran
Supervisor: Z. Navabi, Ph.D

Research Assistant March 2015 to June 2016
Sillicon Intelligence Laboratory,
University of Tehran
Supervisors: Sied M. Fakhraie, Ph.D and M. E. Salehi Nasab, Ph.D

Refereed Publications

1. Hashemi,H., **Fouman, A.**, Soltani, M., Navabi, Z.,"Early Prediction of Timing Critical Instructions in Pipeline Processor." *Baltic Electronics Conference*, 2016.

Submitted Publications

1. *Under Construction*

Papers in Preparation

1. Moghaddas, I., **Fouman, A.**, E. Salehi Nasab, M., Kargahi, M."Fine-Grained Aging Rate Prediction for Embedded Cores Using Instruction-Level Stress Monitoring."
2. **Fouman, A.**, Navabi, Z., "A Low-Power and Low-Area Overhead Technique toward On-line Timing Error Resilience."

Awards

- Nomination for membership of **National Elites Foundation** 2016
  {*Still Under Study* }
- **Semi-Finalist** in National Olympiad in *Mathematics*
  at Young Scholars Club. Mar. 2011
- Graduated in high school **Summa Cum Laude** Sep. 2012

Teaching Experience

Teaching Assistant — Falls 2014–15 & Spring 2015 & Fall 2016
Electronics I
Instructor: Z. Sanaee, Ph.D

Teaching Assistant — Springs 2015–16 & Fall 2016
Electronics Lab I
Instructor: H. Khodkari, M.S.

Teaching Assistant — Fall 2016
Digital Logic Design Lab
Instructor: Z. Navabi, Ph.D

Teaching Assistant — Fall 2016
Electronics II
Instructor: A. Afzali-Kusha, Ph.D

Teaching Assistant — Fall 2016
Hardware/Software Co-design
Instructor: M. E. Salehi Nasab, Ph.D

Teaching Assistant — Fall 2016
Computer Architecture & Computer Architecture Lab
Instructor: S. Safari, Ph.D

Teaching Assistant — Fall 2016
Digital Electronic Circuits
Instructor: M. Kamal, Ph.D

Teaching Assistant — Spring 2016
Electronics Lab II
Instructor: M. Kolahdouz, Ph.D

Teaching Assistant — Spring 2016
Electronics I
Instructor: M. Kolahdouz, Ph.D

Teaching Assistant — Spring 2015
Ordinary Differential Equations
Instructor: P. Nasehpour, Ph.D

Teaching Assistant — Fall 2014
Mathematics I
Instructor: Committee of Mathematics, Faculty of Engineering

Grading TA — Fall 2014
Digital Logic Design
Instructor: Z. Navabi, Ph.D

Internship

Design & Revision of the experiments of Digital Logic Laboratory — Summer 2015
Supervisor: Z. Navabi, Ph.D
Division of Digital Systems, University of Tehran

Hardware and Software Skills

Computer Programming:

- *Expert* in: Verilog, Hspice, C, C++, UNIX shell scripting, MATLAB
- *Familiar* with: GNU make, LaTeX, VHDL

Tools & OS:

- *Expert* in: Altera Quartus II, Altera Modelsim, Pspice
- *Familiar* with: OS X, Linux, Design Compiler, LabView

Skills:

- *Expert* in: Debugging, Electronics, Digital Logic Design, FPGA, AVR
- *Familiar* with: Nios II, ARM

Notable Projects

Set-up of a fully functional SDRAM Controller

- using *verilog HDL* and implemented on Altera DE-2 *Cyclone IV* FPGA board

Implementation of a fully synthesizable pipelined MIPS processor

- using *verilog HDL* and implemented on Altera DE-2 *Cyclone II* FPGA board

Digital Oscilloscope

- using *verilog HDL* and implemented on FPGA board

Digital Electrocardiography Device

- using *verilog HDL* and implemented on FPGA board

Digital Plants Word System

- using *verilog HDL* and implemented on FPGA board

Digital Voltmeter

- using *verilog HDL* and implemented on FPGA board

Smart Plants irrigation System

- using *AVR Micro-Controller* and *Android* platform

Line Follower Robot

- using *AVR Micro-Controller* , *C programming language*, and designing a *Printed Circuit Board (***PCB***)*

Certificates

- Application of Mathematical Models in Biology and Cancer, Cancer Modelling Research Center(CMRC), Tehran University of Medical Sciences Dec. 2014
- Industrial Automation System –PLC Controllers training course, Negar Sanat Co, Iran Aug. 2014
- AVR Micro Controllers training course, IEEE Student Branch of University of Tehran Oct. 2013

Services

Alumni Association of Faculty of Engineering, University of Tehran

- Assist with holding the annual "50th graduation anniversary" of former alumni
- Assist with holding the 80th anniversary of the enactment of constitution of University of Tehran

How to Apply, IEEE Student Branch, University of Tehran

- Assist with holding of annual How To Apply talks

University of Tehran Open Day

- Assist with holding of annual Open Day and Admitted Student Visit Days
- Meet with prospective and admitted students

Sports and Hobbies

Soccer, Swimming, Biking, Basketball, TV Series, Cooking

Activities and Societies

- IEEE Student Member, IEEE International Mar. 2015 – Present
- Iranian National Student-Scientific Organization of Electrical Engineering 2014 – 2015

References

Available upon Request