AmirHossein AzarAbadi

Personal Information

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Research Interests

Embedded Systems
Cyber-Physical Systems
FPGAs and Re configurable Computing
Circuit Design
Signal Processing
Internet of Things (IoT)

Education

2014–Present	B.Sc. in Computer Engineering, Shahid Beheshti University, Tehran, Iran Major: Computer System Architecture Gpa: 17.1/20
2007–2014	Diploma in Physics and mathematics Diploma at Rouzbeh High School, Tehran, Iran Gpa: 19/20

B.Sc. thesis

Design and implement a sound source localization system using a microphone array on MAX10 FPGA

Supervisors *Dr. Attarzadeh Niaki, Dr. Shekofteh*

Description Design of a sound source localization system by using 6 microphones which are placed in a round shape panel. The Signal processing part is done by the MAX 10 NEEK platform using NIOS II soft processor. All microphones were sampled at 100KHz using MAX 10 ADC and this data is processed to determine difference between Time of Arrivals (ToAs) which comes handy in calculating the exact position of a sound source.

Professional Experiences

Spring 2018-Fall 2018	Hardware Design Intern, on the project of ECG signal processing, *Novin Tarasheh Alborz,Tehran, Iran*
Summer 2017-Spring 2018	Executive manager, *Nik Fanavaran Plasma , Pounak , Tehran , Iran*
Spring 2018-Present	Hardware Design Team senior member, *Shahid Beheshti University, Tehran, Iran*
Summer 2015-Fall 2016	Hardware Design Intern, *Ghadir CO. , Motahari , Tehran , Iran*

Projects

Thermometer	Design and program the system that automatically controlled heater by measuring temperature (C, AVR)
Smart Insulin Injection Pen	Smart device for diabetes disease which is connect to smart phones (ARM),(Sensor Fusion)
Course Projects	
Mano CPU	Implementing Mano CPU using a hardware description language (VHDL)(Design Vision)
SBU-Wireless Network Player	A Network based player which up to 10 devices can connect and play the same song (Java, Multi threaded)
SBU-Vowel Detector	A Designing and implementing a system that detects vowels in a voice and prints the results on a LCD (Arduino, AVR, Signal Processing))
SBU-Processor	A 8 bit, 5 stage pipelined micro-processor (Verilog)
SBU-Chess	Multiplayer chess game over local network (Java)

Teaching Experiences

Teaching Assistant	
Advanced Programming	Dr. Vahidi Asl , Spring '16
Data Structures	Dr. Abin , Fall '16
Computer Architecture	Dr. Attarzadeh Niaki , Spring '17
Microprocessors	Dr. Attarzadeh Niaki , Fall '17, Spring '18
Leading Instructor	
High school mathematics	Fall '16 , spring '17
High school physics	Fall '16 , spring '17

Languages

Persian: Native
English: Professional proficiency

Computer Skills

Micro Controllers:	Assembly 8051/8086 (C , C++), ARM, AVR
Hardware Design:	FPGA, Verilog, VHDL
Simulation and Design Software:	MATLAB, Simulink, Proteus, Quartus, ISE Modelsim
Qsys:	Intel NIOSII, Hardware Description
Parallel Programming:	Hardware design
Circuit analysis tool:	PSpice, HSpice
Web Tools:	WordPress, HTML , CSS
Microsoft Office:	Word, Excel , Access
Miscellaneous:	LaTeX

Hobbies and Interests

Football
Video games
Music
Movies

Notable Courses in Hardware Engineering

Grades

Course	Grade
Microprocessors (Highest score in a class of 40 students)	19
Computer Architecture (Highest score in a class of 30 students)	18
Logic Circuits	16.75
Advanced Programming	19.38
Operating Systems	19
Data Transmission	17.75
Electrical circuits	18
Embedded Real-Time Systems	16
Computer Network	17
Computer Architecture Lab	16
Microprocessors Lab	16
Hardware Modeling using VHDL	15