Faculty of Engieering

University of Tehran

Bahador Valizadeh Pasha

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SPECIAL INTERESTS

Analog and Digital Circuits Design
Communication Systems
Micro- and Nano-Electronics Fabrication
Semiconductor Materials and Devices

EDUCATION

2009-Up to now B.Sc. in Electrical & Electronic Eng., Department of E&C Eng., University of Tehran, Tehran, Iran._____GPA of last two years: **17.10/20.**
B.Sc. Project: Design, simulation and implementation of a **16-bit ADC/ DAC** card and design a **5-Amper** switching DC power supply, under the supervision of **Prof**. Omid Shoaei**.**

2005-2009 High School Diploma, Shahid Beheshti high school, under the supervision of **NODET** (National Organization for Developing Exceptional Talents), Babol, Mazandaran, Iran. **Total GPA: 19.09/20.**

HONORS

2009-2013 Faculty of engineering **excellent student for 5 semesters**, as a result of obtaining a semester GPA of over **17/20**.

2009 Ranked **276th** among 273000 participants in the nationwide university entrance exam in the field of Mathematics and Physics **(top 0.1%).**

2007 Semifinalist of the national **Mathematics Olympiad**.

2007 Semifinalist of the national **Physics Olympiad**.

PROFESSIONAL EXPERIENCES

2011- Up to now **Research assistant** at **Thin Film Lab (TFL)**, Prof. Shams Mohajer.

2012- Up to now **Research assistant** at **IC Design Lab**, Prof. Omid Shoaei.

Spring 2013 Chief TA of ElectronicsII.
FAll 2012 Chief TA of Microprocessor Lab.
Fall 2013 TA of ElectronicsIII.
Fall 2012 TA of CommunicationsI.
Spring 2012 TA of Microprocessor.

NOTABLE PROJECTS

- **Simulation** of new designs perform as logic gates, such as **AND, OR** supposed to work as **Adiabatic (low power) circuits**. Simulations showed a decrease in the circuits power consumption.
- Finding the **minimum energy point** in **sub-threshold** design in **45nm** technology.
- Utilization of deficiencies in **Monochromatic Talbot effect** to reach the **smaller pattern** without any substantial changes in **Lithography** instruments.
- Design and simulation of low power and high performance **Telescopic amplifier**, **Hspice**.
- Finding new method of **distance error correction** in Lithography, using **Talbot effect**, **TFL.**
- **INTERNSHIP:** Implementation of a **controller circuit** for Deck-**Tack**, the most important part of the PCR (a device to mix **organic materials** to reach a new organic substance, such as **DNA**).
- Design and Simulation of **Voltage Control Oscillators (VCO) and Mixer** with **ADS.**
- Fabrication of 16 array **Transistors, TFL.**
- Design and implementation of **MIPS processor** in Modelsim.
- Design and implementation of a device for blind people to find obstacles using **Ultrasound sensors**. Moreover, designing a box for the board and building a **user-friendly** instrument which works with batteries.
- Finding and simulation of transfer function of **Double inverted pendulum.**
- Solving and simulation of the equations of **a single electron** tunneling a **barrier, Matlab**.
- Performing seven projects on **FPGA development board,** such as implementation of simple games, Oscilloscope, and signal generator. **Prof. Zainalabedin Navabi.**
- Design and implementation of a controller of four DC motors with **Gyro sensors** In quadrocopter.
- Implementation of computer game with C **code** called **"othello"**.
- Building a **router robot** in high-school team.

SPECIAL SKILLS

Hardware Experienced in:
FPGA (Cyclone II), PIC(dspics), AVR.

Software Experienced in:
Matlab/ C / C# / quartusII/ Verilog/ ADS/Hspice/Altium Designer / L-Edit / MPLABX/ Orcad pspice / SIMULINK
Familiar with:
COMSOL Multiphysics

PUBLICATION AND PATENT

Summer 2013 M. Gharooni, A. Chimeh, **B. Valizadeh,** S. Mohajerzadeh, and M. Shahabadi. Correction of positioning error in the Talbot lithography under non-coherent illumination. (Submitted to **Journal of Nanophotonics**).

Summer 2013 M. Kolahdouz, **B. Valizadeh**, A.Mayeli. "Rinse Drier", a semi-industrial instrument for cleaning silicon wafers. (Submitted to **Natioal Patent**).

ENGLISH PROFICIENCY

-TOEFL: 99/120
Reading: 26 Listening: 27 Speaking: 23 Writing: 23

-GRE: Quantitative: 170/170