Masoud **Babaabasi**

Electronics Engineer · Circuit Designer

Tehran,Iran

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"Always Be Curious"

Education

University of Tehran — *Tehran, Iran*

M.Sc. in Electronics Engineering — *Sep. 2018 - Aug. 2021*

- Major: Analog Integrated Circuit Design
- Advisor: Prof. Shahin Jafarabadi Ashtiani
- Thesis:"Design and implementation of a wireless power transfer system for a freely-moving animal"
- Thesis Score: Excellent
- GPA: 3.77/4 , Average Score: 18.44/20

Isfahan University of Technology — *Isfahan, Iran*

B.Sc. in Electrical Engineering — *Sep. 2013 - Aug. 2017*

- Advisor: Prof. Nasrin Rezaei
- Project:"Implementation of a 2D plotter (XY axis CNC machine)"
- GPA: 3.62/4 , Average Score: 17.04/20

Skills

Programming	C/C++, MATLAB, Vrilog, Python, LaTeX
PCB Design Tools	Altium Designer
CAD & Simulation	Cadence Spectre, Advanced Design System(ADS), HSPICE, PSPICE, Proteus
Microcontrollers	AVR, STM32, ESP32 , Xilinx Zynq7000 , EmWin GUI Library

Language

Persian	Mothertongue
English	Fluent , TOEFL score: 103(Recently Expired), GRE score: 310

Teaching Experiences

High speed Serial Link Communication — *University of Tehran*

Course Teaching Assistant, Prof. Samad Sheikhaei — *Spring 2021*

Electronics II — *University of Tehran*

Course Teaching Assistant, Prof. Shahin Jafarabadi Ashtiani — *Fall 2021*

Data Converters — *University of Tehran*

Course Teaching Assistant, Prof. Omid Shoaei — *Spring 2020*

Analog Integrated Circuit Design — *University of Tehran*

Course Teaching Assistant, Prof. Shahin Jafarabadi Ashtiani — *Fall 2020*

Research Interests

- **Biomedical Instrumentation**
- **Wireless Power and data Transfer**
- **Analog/Mixed-Signal IC Design**
- **Integrated Circuit Design**
- **Digital Signal Processing**
- **Machine Learning**

Research Experiences

Research Assistant — *Tehran, Iran*

M.Sc. Research Project, Analog Integrated Circuit Design Laboratory, University of Tehran — *2018-2021*

Design and implementation of a wireless power transfer system for a freely-moving animal

Professional Experience

Hardware Designer for Verification Tools — *CROUSE (P.J.S) Co.*

I was hired by Crouse (P.J.S) Co. as a Hardware and Circuit Designer in the Research and Development Division. — *February 2024 – Present*

My role is to design hardware necessary for product line validation on the verification team.

Honors & Awards

2018 **Rank 92 of 40000**, Nationwide Graduate Qualifying Exam in Electrical Engineering

2013 **Rank 375 of 251956**, Nationwide University Entrance Qualification Test

Selected Passed Courses

- **Digital System design I (18.7/20)**
- **Digital System design I LAB (19.5/20)**
- **Digital Systems Design II (20/20)**
- **Digital Systems Design II LAB(20/20)**
- **Analog and Digital Electronics I (17.6/20)**
- **Analog and Digital Electronics I LAB (20/20)**
- **Hardware Description Language(HDL)(20/20)**
- **Hardware Description Language LAB(19/20)**
- **Pulse Technique LAB (20/20)**
- **Analog Integrated Circuits (CMOS) (18.6/20)**
- **Advanced Very Larg Scale Integration(VLSI)(18.5/20)**
- **Radio Frequency Integrated Circuits(RFIC)(20/20)**
- **High Speed Serial Link Communication(20/20)**
- **Integrated Data Converters (A/D, D/A) (18.6/20)**
- **Biological Signal Processing(BSP)(19.5/20)**

Projects

Academic Projects/Experience

- **Design and Simulation of an 8-bit 40 MHz Pipelined ADC in 0.18 m CMOS.**
- **Design and simulation of a 10Gbps Continuous-Time FIR Equalizer for Wired Line Data Communication in 0.18 m CMOS.**
- **Design and Simulation of a 40 MHz Sample and Hold in 0.18 m CMOS.**
- **Design and Simulation of LNA, Mixer, VCO in ADS in 0.18 m CMOS.**
- **Design and Implementation of RTD signal conditioning circuit.**
- **Design and Implementation of a simple metal detector circuit.**
- **Simulation of a serial communication line and the effects of the non-idealities on the received data.**
- **Design and implementation of a configurable multi-stage wavelet filter on a Xilinx spartan6 family FPGA.**
- **Design and simulation of a simple CPU using Verilog language.**

Professional Projects/Experience

- **Designing a set of PCBs and writing microcontroller codes for RFID and fingerprint access control system.**
- **Designing a set of PCBs for smart home control.(RGB strip lighting, sound system, air conditioner control , roof garden plant watering)**
- **Design a microcontroller based configurable Human Machine Interface(HMI) device using emWin GUI library.**
- **Implementation of a remote browser-based SD card file manager via Wifi and Ethernet.**

References

Dr. Shahin Jafarabadi Ashtiani

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