

Masoud Babaabasi

✉ masoud.babaabasi@ut.ac.ir | 🏠 masoud-babaabasi.github.io | 📧 masoud-babaabasi | 🌐 masoud-babaabasi | 📺 live:masoud.tafresh

“Always Be Curious”

Education

University of Tehran

Tehran, Iran

M.SC. IN ELECTRICAL 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

- Major: Electronics
- Advisor: Prof. Nasrin Rezaei
- Capston Project: “Implementation of a 2D plotter (XY axis CNC machine)”
- GPA: 3.62/4 , Average Score: 17.02/20

Skills

- Programming** C/C++, MATLAB, Vriolog, Python, LaTeX
- PCB Design Tools** Altium Designer
- CAD & Simulation** Cadence Spectre, ADS, HSPICE, PSPICE, Proteus
- Microcontrollers** AVR, STM32, ESP32 , EmWin GUI Library

Language Skills

- TOEFL score** 103, (Reading: 27, Listening: 29, Speaking: 22, Writing: 25)
- GRE score** 310, (Verbal Reasoning: 145, Quantitative Reasoning: 165, Analytical Writing: 3)

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 SHOEAI

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

- Analog Integrated Circuit Design Laboratory, University of Tehran, Iran, 2018-2021

PUBLICATION

- Masoud Babaabasi, Shahin Jafarabadi Ashtiani, “Wireless Power Transfer Excitation Scheme Tolerant To Receiver Orientation With Inherent Position Detection”, *IEEE Transactions on Magnetics*, 2023 (Under review)

Honors & Awards

2018 **Rank 92 of 40,000**, Nationwide Graduate Qualifying Exam in Electrical Engineering
2013 **Rank 375 of 251,956**, Nationwide University Entrance Qualification Test

Selected Passed Courses

- Digital System design I (18.7/20)
- Digital Systems Design II (20/20)
- Analog and Digital Electronics I (17.6/20)
- Hardware Description Language(HDL)(20/20)
- Analog Integrated Circuits (CMOS) (18.6/20)
- Advanced Very Large 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/Experiences

ACADEMIC

- 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

- 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 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

ASSOCIATE PROFESSOR

Department Electrical and Computer Engineering
University of Tehran
Phone Number: (+98) 2182084952
Email: sashtiani@ut.ac.ir

Dr. Omid Shoaee

PROFESSOR

Department Electrical and Computer Engineering
University of Tehran
Phone Number: (+98) 2182085062
Email: oshoaee@ut.ac.ir

Dr. Samad Sheikhaei

ASSOCIATE PROFESSOR

Department Electrical and Computer Engineering
University of Tehran
Phone Number: (+98) 2182084963
Email: sheikhaei@ut.ac.ir