

PhD Position in Neuromorphic Bioelectronics for Brain-Computer Interfaces: CMOS Design of Analog Front-End and Sensor Interfaces for Wearable Neuroprosthetics

MOHAMMAD ISSVAND NASSIRI

Address: No. 126, Saleh Pour St., Zeytun, Ahvaz, IRAN, ZIP 6164635941



Phone: (+98) 916-3432263

Email: i.nassiri.m@gmail.com

ORCID: <https://orcid.org/0000-0002-0757-1258>



Education

-  **Shahid-Chamran University** Ahvaz, Iran
Master of Science in Electrical and Electronic Engineering
July 2011 **GPA: 16.66** out of 20
Thesis title: *Digital Background Calibration of Timing and Gain Mismatch Errors in Time-Interleaved ADCs*
-  **Quchan University of Technology** Quchan, Iran
Bachelor of Science in Telecommunication Technology Engineering
July 2009 **GPA: 16.16** out of 20
Project title: *6-Channel High Frequency Remote Control*
-  **Shahid-Mohajer Isfahan Technical Higher Educational Center**
Isfahan, Iran
Associate Degree in Electronics (The Forth Top Student)
September 2007 **GPA: 16.16** out of 20
Project title: *Ultrasonic Distance Meter by Microcontroller*
-  **Shahid-Beheshti High School** Dezful,
Iran

Diploma in Electronics (Top Student in High School)
September 2005 **GPA: 18.29** out of 20

Industry Experience

+ Instrumentation & Control Engineer, Engineering Department, National Iranian South Oil Company Ahvaz, Iran

December 2019 – present

- I & C engineering in the most important EPC projects of Iran
- Assessing designing documents
- Evaluating design, engineering, and construction of projects in compliance with International Standards
- Corresponding with contractors in English

+ Telecommunication Engineer, Marun Oil & Gas Production Units, National Iranian South Oil Company Ahvaz, Iran

June 2010 – November 2019

- Electronic Supervisor
- Design of Self-Powered Electronic Boards for Telephones
- Transforming the analog telecom. links into the digital

+ Founding *Fannavari Sotudeh Kardan Co.:*

- Offering engineering services
- Maintenance and installation of technical devices and systems

Teaching Experience

📖 **Applied Mathematics** • Undergraduate Students, Shahid-Mohajer Isfahan Technical Higher Educational Center – Recitation Classes

📖 **Electronics 2** • Undergraduate Students, Quchan University of Technology – Recitation Classes

Publications

Journal publications:

- ✚ "A New Adaptive Blind Background Calibration of Gain and Timing Mismatch for a Two-Channel Time-Interleaved ADC", Microelectronics Journal, 2018.
- ✚ "High-Speed Estimation-Based Calibration of Gain and Timing Mismatches in Multi-Channel Time-Interleaved ADCs", submitted to Computers and Electrical Engineering, 2025. (July 18, 2025)

Conference publications:

- ✚ "A Reduction in Mismatch Error Tones by Randomization of Errors in Time-Interleaved ADCs", Engineering Sciences and Novel Ideas Conference, 2013.
- ✚ "Digital Background Calibration in Time-Interleaved ADCs", Engineering Sciences and Novel Ideas Conference, 2013.

Professional Membership

- Iranian Society of Electrical Engineer
- Reviewer at Journal of Circuits, Systems, and Computers (JCSC)

Research Interests

- Analog & Mixed-Signal Circuits and Data Converters
- Integrated Circuit Design
- Brain-Computer Interfaces
- Wearable Sensors

Programming Languages

- ❖ Python
- ❖ C/C++ Code
- ❖ MATLAB
- ❖ Assembly & Visual Basic
- ❖ VHDL

TECHNICAL SKILLS

◆ Hardware Description & Scripting Languages

- VHDL, Verilog, Python, TCL, Visual Basic, Assembly

◆ EDA & IC Design Tools

- **Commercial:** Cadence Virtuoso
- **Open-Source:** Magic VLSI, OpenROAD, Xschem, KLayout, Netgen
- **PDKs:** SKY130 (Efabless ecosystem)

◆ Design Flow Expertise

- Schematic Entry
- Analog/Digital Simulation
- Layout
- LVS/DRC
- Post-Layout Simulation
- GDSII

◆ Circuit Domains

- Analog and Mixed-Signal CMOS Circuit Design and Interfaces
- Biomedical Signal Acquisition
- ADC Calibration
- Low Power and Low Noise Circuit Design
- Signal Conditioning and Digitization

◆ Simulation & Modeling

- HSpice, PSpice, OrCAD, MATLAB/Simulink, Proteus, ...

◆ PCB Design

- Proteus • Altium Designer

◆ Other

- Industrial Sensors and Signal encoding

➤ Additional Info.

- TOEFL (Oct, 2, 2024): 91

References

- ✓ Alimorad Mahmoudi, Professor of Electrical & Electronic Engineering,
Shahid Chamran University

Email address (a.mahmoudi@scu.ac.ir), Phone: +98-613-3330011 - Ext: 5734

- ✓ Karim Ansari, Professor of Electrical & Electronic Engineering,
Shahid Chamran University

Email address (karim.ansari@scu.ac.ir), Phone: +98-613-3330011 – Ext: 5730

- ✓ Mahdi Rezvanyvardom, Professor of Electrical & Electronic Engineering,
Arak University

Email address (m-rezvanyvardom@araku.ac.ir), Phone: +98-863-2625630

- ✓ Hamid Khalifi Asl, Electronic Supervisor, National Iranian South Oil Company
Email Address (Khalifiasl.h@nisoc.ir), Phone: +98-613-4188876