Mahrokh Namazi

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LinkedIn

Skills

Circuit Design: Analog circuits - SPICE simulations - PCB design - Low-power embedded systems
Software & Tools: Synopsys Custom Compiler - Cadence Virtuoso - LTSpice - Multisim - Altium Designer
Programming languages: Verilog-A - MATLAB - C - R - Python
Hands-on Skills: Electronics test equipment - PCB soldering and rework - Prototyping, testing and debugging
Operational & Analytical Skills: Documentation - Version control - Root cause analysis - Data analysis

Education

M.Sc. Electrical Engineering 09/2020 – 12/2023
University of Calgary, GPA: 3.92/4.00

B.Sc. Electrical Engineering
Sharif University of Technology, GPA: 3.37/4.00 09/2015 – 01/2020

Work Experience

Analog Design Engineer 05/2024 – present
ESS Technology, Kelowna BC

- Designed a chopper-stabilized amplifier, reducing bandgap's low-frequency noise by 40% compared to prior IP.
- Modified 4 analog blocks to meet chip-level requirements and enhance performance.
- Performed simulations to validate functionality of bandgap references, comparators, and temperature sensing circuits, among other analog blocks.
- Investigated potential causes of mismatch between simulation and lab measurements of DAC output's harmonic distortion, guiding future debugging efforts.
- Optimized TSMC 150 nm process resistor model parameters in MATLAB to simulate the behavior of specific fabricated chips with higher accuracy.

English and Humanities Tutor 01/2023 – 05/2024
Paper Education Co., Remote

- Provided online tutoring, evaluated essays, and delivered feedback to K-12 students in the US and Canada.

Research Assistant 01/2021 – 12/2023
Integrated Circuits & Optical Imaging Lab, University of Calgary

Project 1: *Electrochemical impedance spectroscopy device for cortisol detection*

Project 2: *Ultra low-light fiber photometry system for measuring neural activity*

- Developed 2 miniaturized embedded systems interfacing with optical devices and electrochemical sensors.
- Adapted circuit design 7 times to evolving sensor specifications and project objectives.
- Designed 5 PCBs in Altium Designer, soldered PCBs, assembled optoelectronic systems.
- Built a fiber photometry system using 10 times less optical power than gold-standard systems.

Teaching Assistant 09/2021 – 12/2023
University of Calgary

Courses: *Digital Electronic Circuits, Analog Electronic Circuits, Electronic Devices and Materials, Signals and Transforms, Fundamentals of Electrical Circuits, Biomedical Signals, Systems and Instrumentation*

- Coordinated teaching assistants for Analog Electronic Circuits.
- Troubleshooted circuits, Multisim simulations, and MATLAB codes in labs.

Publications

- "SiPM-based fiber photometry and EIS for cortisol detection: common electronics, distinct applications." Master's thesis, University of Calgary, 2024.
- "Silicon Photomultiplier-based Low-light in *vivo* Fiber Photometry." in IEEE BioCAS 2023.
- "Stimulation of spinal cord according to recorded theta hippocampal rhythm during rat move on treadmill." in Biomedical Engineering / Biomedizinische Technik, 2023. (co-author)
- "A Novel Low Cost and Versatile Fabrication Method of Flexible Multi-Electrode Array for Spinal Cord Stimulation." in ICBME 2020. (co-author)

Honors and Awards

2023: The University of Calgary's GSA's Professional development grant.

2021–2022: Hotchkiss Brain Institute International Graduate Recruitment Scholarship for two years.

2015–2016: Prize for distinguished academic talents by the National Elites Foundation for two years.

2015: Ranked within the top 0.05% in the National University Entrance Exam (86th among 181,846 participants).

Volunteer Experience

Volunteer 10/2022 – 10/2023
GSA Events Subcommittee, University of Calgary
- Participated in organizing 8 social and recreational events for graduate students.

Vice-President External 10/2021 – 10/2022
Electrical and Software Engineering GSA, University of Calgary
- Coordinated 7 events for ESE students, fostering connections and networking within the community.
- Advocated for ESEG's interests in the Graduate Representatives Council and department meetings.

Peer Mentor 09/2021 – 12/2021
International Students Services, University of Calgary
- Offered guidance to first-year international students for a smooth transition to life and academics abroad.

Research Assistant 09/2018 – 01/2020
Superconductive Electronics Research Lab (SERL) and Royan Institute
Project: *Wearable Low-power Neurostimulator*
- Designed a 2-channel biphasic pulse generator for epidural electrical stimulation of rodents with spinal cord injury, leading to 2 publications.

Teaching Assistant 09/2018 – 01/2020
Sharif University of Technology
Courses: *Principles of Electronics, Principles of Electrical Engineering, Circuit Theory, Logic Circuits*
- Guided and evaluated students in electronics labs and troubleshooted electronic circuits.