HEDIYEH SAVARI

Github Portfolio
Website
LinkedIn

Email Address
Tehran, Tehran, Iran
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EDUCATION

University of Tehran *Sep. 2018 - Jul. 2022*
Master's Degree, Micro and Nano Electro Mechanical Systems Engineering GPA: 18.19/20.00

Iran University of Science and Technology *Sep. 2013 - Sep. 2018*
Bachelor's Degree, Electrical Engineering - Electronics GPA: 15.02/20.00

PROJECTS

Synthesis of Ultra-Thin, Long Silver Nanowires (AgNWs) for the Fabrication of Flexible, Transparent, and Conductive Electrodes
Supervisor: Alireza Nikfarjam, University of Tehran *Feb. 2019 - Feb. 2020*

Design and Fabrication of a Nickel-Based Micro-Heater
Supervisor: Alireza Nikfarjam, University of Tehran *May 2019 - Jul. 2019*

Simulation of a Novel RF MEMS Square Resonator with COMSOL Multiphysics Software
Supervisor: Reza Askari Moghadam, University of Tehran *Apr. 2019 - Jul. 2019*

Simulation and Analysis of Silicon MEMS-Based Diaphragms: Medium Deflection, Bossed, and Corrugated Diaphragm Models with MATLAB Software
Supervisor: Javad Koohsorkhi, University of Tehran *Jun. 2019*

Simulation of Laser Output Bandwidth for GaAs Semiconductor Lasers at 808 nm with a Bandwidth Less than 5 nm Using Wolfram Mathematica and Silvaco Software
Supervisor: VahidReza Yazdanpanah, Iran University of Science and Technology *May. 2018 - Sep. 2018*

PUBLICATION

H.Savari, E.Zadehesmaeel, A.Nikfarjam - "Design and Fabrication of a Multifunctional Flexible Strain and Pressure Sensor based on Conductive Nanocomposites," 2024. *under preparation*

H.Savari, A.Nikfarjam - "Design and Fabrication of Superconducting, Stable, and Low-Cost Electrodes on Flexible Substrates," 2024. *under preparation*

E.Zadehesmaeel, H.Savari, A.Nikfarjam - "Design and Fabrication of a Wearable Electrochromic Display with 100 Pixels and a Seven-Segment Configuration," 2024. *under preparation*

BOOK TRANSLATION

Jena, D. (2022). Quantum Physics of Semiconductor Materials and Devices. Translated by H. Savari. Persian Translation. IV Part: Quantum Photonics with Semiconductors, Chapters 26-30, Pages 701-846. *in progress*

RESEARCH INTERESTS

Flexible/Wearable/Multifunction Sensors
Flexible/Wearable/Stretchable Electronics
Transparent/Printed Electronics
Microsensors/Microactuators
Lab-on-a-Chip Technology
Smart Materials/Textile
Electronic Skin and Soft Robotics
Health Monitoring and Disease Diagnosis
MEMS/NEMS and Nanotechnology
Nanoelectronics and Optoelectronics
Optics, Photonics and Quantum Photonics
Artificial Neural Networks
Optimization
Machine Learning and Artificial Intelligence
Human-Machine Interactions
Remote Sensing and Image Processing

SKILLS

- Laboratory Skills:
Research and Development (R&D), Device Fabrication, Microfabrication, Nanomaterial Synthesis, DC and RF Sputtering, Chemical Vapor Deposition (CVD), Physical Vapor Deposition (PVD), Spin Coating, Doctor Blade Coating, Mask Design, Photolithography, Lift-off Process, Wet and Dry Etching
- Characterization Skills:
Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM), X-ray Diffraction (XRD), Scanning Tunneling Microscopy (STM), UV/Vis Spectroscopy, FTIR Spectroscopy, Raman Spectroscopy, Compound Light Microscopic Analysis
- Software Skills:
COMSOL Multiphysics, Silvaco, CorelDRAW, Photoshop, Premiere, Microsoft Office
- Programming Languages and Frameworks:
Python, Matlab, C++, HTML, CSS, JavaScript, Wolfram Mathematica, LaTeX

LANGUAGE SKILLS

English (Advanced and Fluent) , TOEFL iBT: Overall score: 98 *10th Sep., 2023*
(Reading: 24, Listening: 27, Speaking: 23, Writing: 24)

Persian (Native), **Arabic** (Upper intermediate), **German** (Beginner)

EXPERIENCE

Teaching Assistant of Advanced Micro and Nano Device Lab Course
Lecturer: Alireza Nikfarjam, University of Tehran *Feb. 2021 - Sep. 2022*
Voluntarily Guiding and Mentoring Fellow Students at the Advanced Micro and Nano Device Lab, University of Tehran *Sep. 2019 - Sep. 2022*
This experience involves instructing fellow students from various academic programs, including bachelor's, master's, and Ph.D., on fundamental cleanroom practices. I provide guidance on various fabrication techniques and offer consultations to help them overcome challenges in their projects.

ACTIVITIES

Deputy Head, Documentary Writer, and Financial Manager of the Student Scientific Association
Electrical Engineering Department, Iran University of Science and Technology *2016-2017*
Honorary Member of the Cultural Office
Electrical Engineering Department, Iran University of Science and Technology *2014-2015*

HONORS AND AWARDS

Ranked 2nd in the M.Sc. cohort of 2018, Microelectromechanical Systems Program
University of Tehran *Jul. 2022*
Tuition Fee Waiver Scholarship, Graduate Program

University of Tehran *Sep. 2018 - Jul. 2022*
Tuition Fee Waiver Scholarship, Undergraduate Program
Iran University of Science and Technology *Sep. 2013 - Sep. 2018*
Ranked 1st among 130 participating students in the Project for the Introduction of Electrical Engineering Careers
Iran University of Science and Technology *Dec. 2014*
Ranked 1445th among 250,000 participants in the Iranian Nation-wide University Entrance Exam Known as Konkour for B.Sc degree in Electrical Engineering *Sep. 2013*
Admitted to attend NODET (National Organization for Development of Exceptional Talents) by taking the NODET exam *Sep. 2009*

LICENSES AND CERTIFICATIONS

Recent Advances in Freeform Electronics, (offered by Yonsei University)
Coursera, Credential ID QCVZFHCKBF37 *Issued May 2023*
Programming for Everybody (Getting Started with Python), (offered by University of Michigan)
Coursera, Credential ID GWSLB43EDL8A *Issued Mar 2023*

SELECTED COURSES

Signals and Systems Theory, 19.50/20
Nano-materials Characterization Methods, 18.50/20
Theory and Technology of Semiconductors, 19.25/20
Special Topics in Micro- and Nano- electromechanical Systems, 18.00/20
Sensors and Micromachine, 19.00/20
Nanobiotechnology, 18.30/20
Nanotechnology, 18.25/20
Modern Physics, 18.00/20

HOBBIES

Chess, Traveling, Hiking, Fitness, Swimming

REFERENCES

Alireza Nikfarjam
Email Address: a.nikfarjam@ut.ac.ir
Title: Associate Professor at University of Tehran, Tehran, Tehran, Iran

Aliakbar Jalali
Email Address: drjalali@gmail.com
Titles: Adjunct Professor at West Virginia University, Morgantown, West Virginia, United States
Adjunct Professor at University of Maryland Baltimore County, Catonsville, Maryland, United States
Professor at Iran University of Science and Technology, Tehran, Tehran, Iran

Hassan Hajghassem
Email Address: hajghassem@ut.ac.ir
Title: Associate Professor at University of Tehran, Tehran, Tehran, Iran

Javad Koohsorkhi
Email Address: koohsorkhi@ut.ac.ir
Title: Associate Professor at University of Tehran, Tehran, Tehran, Iran

Reza Askari Moghadam
Email Address: r.askari@ut.ac.ir
Title: Researcher at Université Paris-Est Créteil (UPEC), Créteil, Île-de-France, France
Former Associate Professor at University of Tehran, Tehran, Tehran, Iran