

# HEDIYEH SAVARI

[Github Portfolio](#)  
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## EDUCATION

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<b>University of Tehran</b> Master's Degree, Micro and Nano Electro Mechanical Systems Engineering	<i>Sep. 2018 - Jul. 2022</i> GPA: 18.19/20.00
<b>Iran University of Science and Technology</b> Bachelor's Degree, Electrical Engineering - Electronics	<i>Sep. 2013 - Sep. 2018</i> GPA: 15.02/20.00

## PROJECTS

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<b>Synthesis of Ultra-Thin, Long Silver Nanowires (AgNWs) for the Fabrication of Flexible, Transparent, and Conductive Electrodes</b> Supervisor: Alireza Nikfarjam, Shahram Abbassi, University of Tehran	<i>Feb. 2019 - Feb. 2020</i>
<b>Design and Fabrication of a Nickel-Based Micro-Heater</b> Supervisor: Alireza Nikfarjam, Shahram Abbassi, University of Tehran	<i>May 2019 - Jul. 2019</i>
<b>Simulation of a Novel RF MEMS Square Resonator with COMSOL Multiphysics Software</b> Supervisor: Reza Askari Moghadam, University of Tehran	<i>Apr. 2019 - Jul. 2019</i>
<b>Simulation and Analysis of Silicon MEMS-Based Diaphragms: Medium Deflection, Bossed, and Corrugated Diaphragm Models with MATLAB Software</b> Supervisor: Javad Koohsorkhi, University of Tehran	<i>Jun. 2019</i>
<b>Simulation of Laser Output Bandwidth for GaAs Semiconductor Lasers at 808 nm with a Bandwidth Less than 5 nm</b> Supervisor: VahidReza Yazdanpanah, Iran University of Science and Technology	<i>May. 2018 - Sep. 2018</i>

## PUBLICATION

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<b>H.Savari, E.Zadehesmaeel, A.Nikfarjam</b> - "Design and Fabrication of a Multifunctional Flexible Strain and Pressure Sensor based on Conductive Nanocomposites," 2024.	<i>under preparation</i>
<b>H.Savari, A.Nikfarjam</b> - "Design and Fabrication of Superconducting, Stable, and Low-Cost Electrodes on Flexible Substrates," 2024.	<i>under preparation</i>
<b>E.Zadehesmaeel, H.Savari, A.Nikfarjam</b> - "Design and Fabrication of a Wearable Electrochromic Display with 100 Pixels and a Seven-Segment Configuration," 2024.	<i>under preparation</i>

## BOOK TRANSLATION

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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.	<i>in progress</i>
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## RESEARCH INTERESTS

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Flexible/Wearable/Stretchable Electronics	Artificial Intelligence
Nanoelectronics and Optoelectronics	Neural Networks
MEMS/NEMS and Nanotechnology	Optimization
Microsensors/Microactuators	Remote Sensing and Image Processing
Lab-on-a-Chip Technology	Computer Vision/Machine Vision
Electronic Skin and Soft Robotics	Machine Learning/Deep Learning
Health Monitoring and Disease Diagnosis	Human-Machine Interactions
Optics, Photonics and Quantum Optics	Quantum Computing/Quantum Information

## SKILLS

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### - 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

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**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

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### 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

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### 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

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### 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

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**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

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Signals and Systems Theory, 19.50/20

Sensors and Micromachine, 19.00/20

Nano-materials Characterization Methods, 18.50/20

Nanobiotechnology, 18.30/20

Theory and Technology of Semiconductors, 19.25/20

Nanotechnology, 18.25/20

Special Topics in Micro- and Nano- electromechanical Systems, 18.00/20

Modern Physics, 18.00/20

## HOBBIES

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Chess, Traveling, Hiking, Fitness, Swimming

## REFERENCES

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**Alireza Nikfarjam**

Email Address: a.nikfarjam@ut.ac.ir

Title: Associate Professor at University of Tehran, Tehran, Tehran, Iran

**Shahram Abbassi**

Email Address: abbassi@um.ac.ir

Title: Visitor Faculty at Western University, London, Ontario, Canada

Professor at Ferdowsi University of Mashhad, Mashhad, Razavi Khorasan, 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