

# Nooshin Rajabi

Tehran, Iran

✉ [n.rajabi@sharif.edu](mailto:n.rajabi@sharif.edu) | [nooshin.rajabi1999@gmail.com](mailto:nooshin.rajabi1999@gmail.com)

[in](#) [Nooshin-Rajabi](#)

🌐 <https://nooshinrajabi.github.io/resume/>

☎ (+98) 9196616153

## Education

### Materials Science and Engineering

B.Sc.  
(Sep 2018 – )

**Sharif University of Technology** (SUT); Department of materials Science and engineering, Tehran,

- **GPA of last two years: 3.80/4.0** via 54 credits
- Overall GPA: 3.19/4.0 via 120 credits

Diploma  
(2014 – 2018)

### High School Diploma in Mathematics and Physics

Farzanegan1 (the subsidiary of National Organization for Development of Exceptional Talent), Tehran, Iran

- Graduated as a top student (2018)

## Fields of Interest

- Microstructure and Mechanical Properties of **Advanced Materials**
- **Pyrometallurgy & Hydrometallurgy**
- **Additive Manufacturing**
- **Machine Learning/Deep Learning** Applications in Materials Science
- **Novel Characterization Methods**
- **Nanomaterials**
- **Electrochemical Energy Storage Systems**

## Publications

### International Papers

- 1 M. Hassanzadeh Azar, S. Aynehband,, N. **Rajabi**, H. Alimohammadi, A.Simchi  
**A simulation study on the figures of merit of perovskite-based photovoltaic devices via SCAPS-1D empowered by machine learning: The effect of active and hole transport layers**, soon to be submitted
- 2 M.Saeedi, M.Amidian, N.**Rajabi**, H.Alimohammadi, A.simchi  
**Multilayered Mesoporous Composite Nanostructures for highly selective quantification of Morphine**, Under preparation
- 3 A.Mohammadnejad, M.Amidian, M.Beheshti, N.**Rajabi**, A.Simchi

**Modification of additively manufactured stainless steel 316L electrodes by metal-organic framework and gold nanoparticles for electrochemical water splitting and CO2 reduction,**  
Under preparation

## Experiences

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- **Research Group Member– Center of Nano and Advanced Materials(CNAM)** (Feb 2021 – Present)
  - Sharif university of technology – department of materials science and engineering
  - Research Director: Dr. A.Simchi
- **Internship – Additive Manufacturing and Materials Lab** (July 2022 – Nov 2022)
  - [MAPNA](#) Turbine Engineering and Manufacturing Company. (Working on the Applications of Machine Learning on Selective Laser Melting (SLM))
  - Supervisor: Hossein Davarzani

## Honors and Awards

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- **4<sup>th</sup> place in ‘Rahneshan’ competition administered by Iran’s National Elites foundation. With Team Project of “Patient-Specific 3D Bio-Printed Wound-Dressing”** (Sep2020 – March2020)
- **Ranked top 1% among ~145,000 participants in Iran’s National Universities entrance for governmental scholarship of B.Sc.** (Sep2018)
- **Ranked 2nd in the PYPT (Persian Young Physicists’ Tournament) two years in a row - selection competition for IYPT (International Young Physicists’ Tournament)** (2015-2016)

## Projects

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- **Investigation of Structure - Performance Relation of Metal-Oxide Supercapacitors with Machine Learning**
  - Supervisors: [Dr. Naimeh Naseri](#)(Health and Energy Lab) and Dr.Mohammad Qorbani (National Taiwan University)
- **Investigation of Multiple Reuse of In625 Powder’s Effect on Mechanical Performance of Additively Manufactured (SLM) Products Using Machine Learning Approaches.**
  - Supervisor: Dr.Abdolreza (Arash) Simchi

## Skills

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### Languages

- **English:**  
**TOEFL (iBT): 108/120** -Reading: 29 - Listening: 30 -Speaking: 27 -Writing: 22 (Taken at 25<sup>th</sup> September 2022)
- **Persian (Native)**

## Engineering Skills

- **Python, Machine Learning, Deep Learning(Computer Vision)**
- Softwars: **CATIA, ORIGIN-Lab, Xpert, Minitab**
- **Laser powder bed fusion(L-PBF)**
- Experience in analyzing **electrochemical techniques** : **Cyclic voltammetry (CV), Chronoamperometry (CA), Linear Sweep Voltammetry (LSV)**
- Experience in analyzing **X-ray diffraction analysis (XRD), Scanning electron microscopy (SEM), Transmission electron microscopy (SEM), Optical Microscopy**
- Experience in analyzing **Mechanical Properties Tests: Tensile, Fatigue (High-Cycle & Low-Cycle Fatigue), K1C, Creep, Hardness Indentation**
- Experience in **Quality Control** and **Non-Destructive Tests: Liquid Penetration, Magnetic Particle, Eddy-Current, Radiography**

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## Other Skills

- **Leadership** - **Team Working** - **Social Speaking**

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## Courses

- **Python for Data Science and Machine Learning Bootcamp**
  - Created by Jose Portilla, Udemy
  - Learning how to use NumPy, Pandas, Seaborn, Matplotlib, Scikit-Learn and TensorFlow
- **Machine Learning Engineering for Production (MLOps) Specialization**
  - Created by Andrew Ng, Coursera
  - Learning how to conceptualize, build, and maintain integrated systems that continuously operate in production.
- **Materials Data Science and Informatics**
  - Created by Dr. Surya Kalidindi from Georgia Tech University, Coursera
  - Learning about process-Structure-Property Linkages
- **Practical Deep Learning for Coders, Fast.ai**
  - Created by Jeremy Howard
  - Learning how to build and train deep learning models for computer vision

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## References

**Dr. Abdolreza (Arash) Simchi** –*Professor at Sharif University of Technology - Department of Materials Science and Engineering and Institute for Nanoscience and Nanotechnology (INST)*

. [simchi@sharif.edu](mailto:simchi@sharif.edu) . phone: +98 9123754935

**Dr. Mohammad (Karen) Qorbani** – *Postdoctoral Researcher at National Taiwan University (NTU) – Center for Condensed Matter Sciences (CCMS)*

. [mqorbani@ntu.edu.tw](mailto:mqorbani@ntu.edu.tw) . phone: +886966584172 & +886-33665231 (Advanced Material Lab)

[mohammad30211@gmail.com](mailto:mohammad30211@gmail.com)