

# Mohammad Reza Karamooz-Ravari

## Associate Professor of Mechanical Engineering

Graduate University of Advanced Technology, Faculty of Mechanical and Materials Engineering

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Research Profile: **ORCID:** 0000-0002-1372-3326 **Google Scholar:** [click](#)

## Education

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### Ph.D., Mechanical Engineering, Applied Mechanics

Isfahan University of Technology, Isfahan. GPA: 18.94/20 ([Link](#)).

Thesis: [Constitutive Modeling of Cellular Shape Memory Alloys Using Microplane Theory](#) 2010-2015

Supervisor: Prof. M. Kadkhodaei ([mahmoud.kadkhodaei@giu.-berlin.de](mailto:mahmoud.kadkhodaei@giu.-berlin.de))

Advisor: Prof. A. Ghaei ([ghaei@cc.iut.ac.ir](mailto:ghaei@cc.iut.ac.ir))

- *Awarded the outstanding Ph.D. Thesis at Isfahan University of Technology ([Link](#))*

### M.Sc., Mechanical Engineering, Applied Mechanics

Isfahan University of Technology, Isfahan, Iran. GPA: 18.10/20 ([Link](#)).

Thesis: [Optimum Geometric Design of GEROTOR Pump Tooth Profile](#) 2008-2010

Supervisor: Prof. M.R. Forouzan ([forouzan@cc.iut.ac.ir](mailto:forouzan@cc.iut.ac.ir))

Advisor: Prof. H. Moosavi ([moosavi@cc.iut.ac.ir](mailto:moosavi@cc.iut.ac.ir))

### B.Sc., Mechanical Engineering, Solid Mechanics

Isfahan University of Technology, Isfahan, Iran. GPA: 17.87/20 ([Link](#)).

Thesis: Stress Analysis in First MULAR Teeth During Surgery 2004-2008

Supervisor: Prof. H. Moosavi ([moosavi@cc.iut.ac.ir](mailto:moosavi@cc.iut.ac.ir))

- *Awarded Top 10% Scholarship*
- *5th Rank in the Department*

## Appointments

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### Director of Applied Design and Manufacturing Engineering Group ([Link](#))

Graduate University of Advanced Technology, Kerman

Jan. 2023- Jan.

2025

### Associate Professor ([Link](#))

Graduate University of Advanced Technology, Kerman

2021- Present

### Dean of the Faculty of Mechanical and Materials Engineering ([Link](#))

Graduate University of Advanced Technology, Kerman

Aug. 2019-Nov. 2021

### Director of Applied Design and Manufacturing Engineering Group ([Link](#))

Graduate University of Advanced Technology, Kerman

Dec. 2017- Aug. 2019

### Member of Academic Committee (August 23-24) ([Link](#))

3rd National Congress and Workshops on Nanoscience and Nanotechnology, Kerman, Iran

Aug. 2017-Aug. 2017

### Editorial Board Member ([Link](#))

Isaac Scientific Publishing, New Horizons in Mechanical Engineering Journal

May 2017- May 2019

**Consultant Professor of the Society of Mechanical and Materials Engineers ([Link](#))** Sep. 2017-Sep. 2018  
Graduate University of Advanced Technology, Kerman

**Assistant Professor** 2016-2021  
Graduate University of Advanced Technology, Kerman

## Journal Publications

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(*h index* = 24, *Citations* = 2430; According to [Google Scholar](#))

1. Kourki H., M.A. Bagherzadeh, **Karamooz Ravari M.R.** (2025) Development of a portable pendulum rolling resistance device for characterizing the properties of elastomeric nanocomposites, *Journal of Composite Materials*, 59 (16): 1983-1994
2. **Karamooz Ravari M.R.** (2024) A Novel Lattice Structure Design Approach Based on Schwarz Primitive Triply Periodic Minimal Surfaces. *Physica Scripta*, 99 (6): 065910. <https://doi.org/10.1088/1402-4896/ad406e>
3. Samimi A.H., **Karamooz-Ravari M.R.**, Dehghani R. (2024) Numerical and Experimental Investigation of Natural Frequency and Damping Coefficient of Flexible Cellular Lattice Structures. *International Journal of Advanced Design & Manufacturing Technology*, 17 (1): 29-38.
4. Mohammadian M., Choobineh A., Razeghi M., Hashemi Nejad N., **Karamooz-Ravari M.R.**, Sheykhshoei M., Kazemi R., Daneshmandi H. (2022) Designing and Usability Testing of a New Prototype Active Footrest for Knee Extension Exercise Among Office Workers, *International Journal of Occupational Safety and Ergonomics* 28 (4): 2492-2500.
5. **Karamooz-Ravari M.R.**, Taheri Andani M. (2022) A Three-dimensional Geometrical Model for the Microstructure of Additively Manufactured Metals, *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications* 236 (12): 2436-2454.
6. Samimi A.H., **Karamooz-Ravari M.R.**, Dehghani R. (2022) Investigation of the Effects of Dimensional Inaccuracies on the First Natural Frequency of Cellular Lattice Structures. *International Journal of Advanced Design & Manufacturing Technology* 15 (3): 109-117.
7. Soleimani E., **Karamooz-Ravari M.R.**, and Dehghani R. (2022) Investigation of the Effects of Different Parameters on the Performance of a Thermal Motor Fabricated Using Shape Memory Alloy Actuators, *Journal of Mechanical Engineering* 51 (4): 491-496. (In Persian)
8. Tavakoli S., Dehghani R., **Karamooz-Ravari M.R.** (2021) Robust Control of a Driving-Cables Continuum Robot Based on Radial Basis Neural Network and Projection Operator, *Journal of Mechanical Engineering* 51 (3): 17-24 (In Persian)
9. Moslemini N., Dehghani R., **Karamooz-Ravari M.R.** (2021) Dynamic Modeling of a Soft Micro Robot Equipped with SMA Actuator and Investigating the Effect of Electric Current and Fluid Velocity on Its Dynamic Behavior, *Journal of Mechanical Engineering: In press* (In Persian)
10. Keshavarz-Robehagani A.R., **Karamooz-Ravari M.R.**, and Dehghani R. (2020) Fabrication and Characterization of Metallic Cellular Lattice Structures Using Indirect Additive Manufacturing. *Aerospace Knowledge and Technology Journal* 9 (2): 207-220. (In Persian)
11. Andani M.T., Lakshmanan A., **Karamooz-Ravari M.R.**, Sundararaghavan V., Allison J., and Misra A. (2020) A Quantitative Study of Stress Fields Ahead of a Slip Band Blocked by a Grain Boundary in Unalloyed Magnesium, *Scientific Reports* 10(1): 3084.
12. Keshavarzan M., Kadkhodaei M., Badrossamay M., **Karamooz-Ravari M.R.** (2020) Investigation on the Failure Mechanism of Triply Periodic Minimal Surface Cellular Structures Fabricated by Vat

Photopolymerization Additive Manufacturing Under Compressive Loadings. *Mechanics of Materials*, 140: 103150.

13. Taheri Andani M., Ghodrati M., **Karamooz-Ravari M. R.**, Mirzaeifar R., & Ni, J. (2019) Damage Modeling of Metallic Alloys Made by Additive Manufacturing. *Materials Science and Engineering: A*, 743, 656-664.
14. Salemizadeh Parizi F., Mehrabi R., and **Karamooz-Ravari M.R.** (2019) Finite Element Analysis of NiTi Self-Expandable Heart Valve Stent. *Proceedings of the Institution of Mechanical Engineers. Part H: Journal of Engineering in Medicine*, 233 (10): 1042-1050.
15. **Karamooz-Ravari M.R.**, Saghzadeh-Mahani Z., and Dehghani R. (2019) Investigation of the Effects of Pore Morphology on the Energy Absorption of Cellular Lattice Structures. *Aerospace Knowledge and Technology Journal* 8 (2): 41-53. (In Persian)
16. **Karamooz-Ravari M.R.**, Dehghani R. (2018) The Effects of Shape Memory Alloys' Tension-Compression Asymmetry on NiTi Endodontic Files' Fatigue Life. *Proceedings of the Institution of Mechanical Engineers Part H: Journal of Engineering in Medicine* 232 (5):437-445.
17. **Karamooz-Ravari M.R.**, Taheri Andani M., Kadkhodaei M., Saedi S., Karaca H., Elahinia M. (2018) Modeling the Cyclic Shape Memory and Superelasticity of Selective Laser Melting Fabricated NiTi. *International Journal of Mechanical Sciences* 138-139:54-61.
18. Naghieh S., **Karamooz-Ravari M.R.**, Sarker M.D., Karki E., Chen X. (2018) Influence of Crosslinking on the Mechanical Behavior of 3D Printed Alginate Scaffolds: Experimental and Numerical Approaches. *Journal of the Mechanical Behavior of Biomedical Materials* 80:111-118.
19. Naghieh S., Sarker M., **Karamooz-Ravari M.R.**, McInnes A., Chen X. (2018) Modeling of the Mechanical Behavior of 3D Bioplotting Scaffolds Considering the Penetration in Interlocked Strands. *Applied Sciences* 8 (9):1422.
20. Taheri Andani M., Dehghani R., **Karamooz-Ravari M.R.**, Mirzaeifar R., Ni J. (2018) A Study on the Effect of Energy Input on Spatter Particles Creation During Selective Laser Melting Process. *Additive Manufacturing* 20:33-43.
21. Taheri Andani M., **Karamooz-Ravari M.R.**, Mirzaeifar R., Ni J. (2018) Micromechanics Modeling of Metallic Alloys 3D Printed by Selective Laser Melting. *Materials & Design* 137:204-213.

- *Among the top 25 most downloaded papers of the journal in 2018.*

22. Taheri Andani M., Dehghani R., **Karamooz-Ravari M.R.**, Mirzaeifar R., Ni J. (2017) Spatter Formation in Selective Laser Melting Process Using Multi-Laser Technology. *Materials & Design* 131:460-469.
23. Taheri Andani M., Saedi S., Turabi A.S., **Karamooz M.R.**, Haberland C., Karaca H.E., Elahinia M. (2017) Mechanical and Shape Memory Properties of Porous Ni50.1Ti49.9 Alloys Manufactured by Selective Laser Melting. *Journal of the Mechanical Behavior of Biomedical Materials* 68:224-231.
24. **Karamooz Ravari M.R.**, Esfahani S.N., Andani M.T., Kadkhodaei M., Ghaei A., Karaca H., Elahinia M. (2016) On the Effects of Geometry, Defects, and Material Asymmetry on the Mechanical Response of Shape Memory Alloy Cellular Lattice Structures. *Smart Materials and Structures* 25 (2): 025008.

- *Selected as the front cover page story by "Smart Materials and Structures, Volume 25, Number 2, February 2016" ([Link](#))*

25. Naghieh S., **Karamooz Ravari M.R.**, Badrossamay M., Foroozmehr E., Kadkhodaei M. (2016) Numerical Investigation of the Mechanical Properties of the Additive Manufactured Bone Scaffolds Fabricated by FDM: The Effect of Layer Penetration and Post-Heating. *Journal of the Mechanical Behavior of Biomedical Materials* 59:241-250.
26. Rezaei R., **Karamooz Ravari M.R.**, Badrossamay M., Kadkhodaei M. (2016) Mechanical Characterization and Finite Element Modeling of Polylactic Acid BCC-Z Cellular Lattice Structures

Fabricated by Fused Deposition Modeling. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science 231 (11):1995-2004.

27. Taheri Andani M., Haberland C., Walker J.M., **Karamooz M.R.**, Sadi Turabi A., Saedi S., Rahmanian R., Karaca H., Dean D., Kadkhodaei M., Elahinia M. (2016) Achieving Biocompatible Stiffness in NiTi through Additive Manufacturing. Journal of Intelligent Material Systems and Structures 27 (19):2661-2671.
28. **Karamooz Ravari M.R.**, Kadkhodaei M., Ghaei A. (2015) A Microplane Constitutive Model for Shape Memory Alloys Considering Tension–Compression Asymmetry. Smart Materials and Structures 24 (7)
29. **Karamooz Ravari M.R.**, Kadkhodaei M., Ghaei A. (2015) A Unit Cell Model for Simulating the Stress-Strain Response of Porous Shape Memory Alloys. Journal of Materials Engineering and Performance 24 (10):4096-4105.
30. **Karamooz Ravari M.R.**, Kadkhodaei M., Ghaei A. (2015) Effects of Asymmetric Material Response on the Mechanical Behavior of Porous Shape Memory Alloys. Journal of Intelligent Material Systems and Structures 27 (12):1687-1701.
31. Mehrabi R., **Karamooz Ravari M.R.** (2015) Simulation of Superelastic SMA Helical Springs. Smart Structures and Systems 16 (1):183-194.
32. **Karamooz Ravari M.R.**, Kadkhodaei M. (2014) A Computationally Efficient Modeling Approach for Predicting Mechanical Behavior of Cellular Lattice Structures. Journal of Materials Engineering and Performance 24 (1):245-252.
33. **Karamooz Ravari M.R.**, Kadkhodaei M., Badrossamay M., Rezaei R. (2014) Numerical Investigation on Mechanical Properties of Cellular Lattice Structures Fabricated by Fused Deposition Modeling. International Journal of Mechanical Sciences 88:154-161.
34. **Karamooz Ravari M.R.**, Talebi S., Shahidi A.R. (2014) Analysis of the Buckling of Rectangular Nanoplates by Use of Finite-Difference Method. Meccanica 49 (6):1443-1455.
35. **Karamooz Ravari M.R.**, Shahidi A.R. (2012) Axisymmetric Buckling of the Circular Annular Nanoplates Using Finite Difference Method. Meccanica 48 (1):135-144.
36. **Karamooz Ravari M.R.** (2011) Elliptical Lobe Shape Gerotor Pump Design to Minimize Wear. Frontiers of Mechanical Engineering 6 (4):429-434.
37. **Karamooz Ravari M.R.**, Forouzan M.R., Moosavi H. (2011) Flow Irregularity and Wear Optimization in Epitrochoidal Gerotor Pumps. Meccanica 47 (4):917-928.
38. **Karamooz Ravari M.R.**, Forouzan M.R. (2010) Frequency Equations for the in-Plane Vibration of Orthotropic Circular Annular Plate. Archive of Applied Mechanics 81 (9):1307-1322.

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## Conference Proceedings

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1. Hosseini-far M., **Karamooz-Ravari M.R.**, Ahmadi A., Shahsavari E., Safety Analysis of 125Q Grade CT5 A and C Grade 283A Steels for Being Used in Roll-over Protective Structures. In 7<sup>th</sup> International Conference on Reliability and Safety Engineering, Tehran, Iran, May 2-4 2023. (In Persian)
2. Samimi A.R., **Karamooz-Ravari M.R.**, Dehghani R. Investigation of the Effects of Geometrical Parameters and Boundary Conditions on the Frequency Response of Cellular Lattices. In 5<sup>th</sup> National Conference on Application of Novel Technologies in Engineering Sciences, Torbat-e-Heidarieh, Iran, February 23-24 2021. (In Persian)
3. Moslemi N., Dehghani R., **Karamooz-Ravari M.R.**, Investigation of the Effects of Electrical Current on the Dynamic Behavior of Soft Robot Equipped with Shape Memory Alloy Actuators. In 29<sup>th</sup> Annual

International Conference of Iranian Association of Mechanical Engineers and 8th International Conference on Thermal Power Plants Industry, Tehran, Iran, May 25-27 2021. (In Persian)

4. Tavakoli S., Dehghani R., **Karamooz-Ravari M.R.**, Dynamic Modeling and Control of Driving-Cables continuum Manipulators. In 2<sup>nd</sup> National Conference on Advanced Research in Engineering and Applied Sciences, January 30 2020. (In Persian)
5. Akbarzadeh M., Dehghani R., **Karamooz-Ravari M.R.**, Design and Kinematics Analysis of Body-Power Partial Land Prosthesis. In 5<sup>th</sup> National Conference on Mechanical and Aerospace Engineering, Tehran, Iran, June 13-14 2020. (In Persian)
6. Moslemi N., Dehghani R., **Karamooz-Ravari M.R.**, Dynamic Modeling of a Soft Micro Robot Equipped by Shape Memory Alloy Actuator. In 6<sup>th</sup> National Conference on Applied Research in Electrical, Mechanical & Mechatronics Engineering, Tehran, Iran, September 20-21 2020. (In Persian)
7. Akbarzadeh M., Dehghani R., **Karamooz-Ravari M.R.**, Design, Fabrication and Kinematic Analysis of Finger Prosthesis Actuated by Body Force. In 3<sup>rd</sup> National Conference of Applied Mechanical Engineering, Shahrekord, Iran, October 28-29 2020. (In Persian)
8. Rokni F., Dehghani R., **Karamooz-Ravari M.R.**, Dynamic Analysis of a Wearable Shoulder Rehabilitation Robot. In 6<sup>th</sup> National Conference on Applied Research in Electrical, Mechanical & Mechatronics Engineering, Tehran, Iran, September 20-21 2020. (In Persian)
9. Zamani H., Dehghani R., and **Karamooz-Ravari M.R.** Investigation of Current Passing through SMA Actuators on the Continuous Robots Response. In 27<sup>th</sup> Annual International Conference of Iranian Society of Mechanical Engineering. Tehran, Iran, April 30-May 2 2019. (In Persian)
10. Hosein-Zadeh F., Dehghani R., **Karamooz-Ravari M.R.**, and Taheri-Andani M. Investigation of the Number and Size of Spatters During SLM Process Using Image Processing. In 27<sup>th</sup> Annual International Conference of Iranian Society of Mechanical Engineering. Tehran, Iran, April 30-May 2 2019. (In Persian)
11. Taheri Andani M., **Karamooz-Ravari M.R.**, Ghodrati M., Mirzaeifar R., and Ni J. Development of a Microstructural-Based Computational Model for Predicting the Mechanical Properties of Metals Manufactured by Additive Manufacturing. In 2019 TMS Annual Meeting & Exhibition: Additive Manufacturing and Welding: Physical and Mechanical Metallurgy of Rapidly Solidified Metals. March 2019.
12. Keshavarz- Robehagani A., **Karamooz-Ravari M.R.**, Dehghani R. Investigation of the Microstructure of Polymeric Cellular Lattice Structure Fabricated by Fused Deposition Modeling. In the 5<sup>th</sup> International and 16<sup>th</sup> National Conference on Manufacturing Engineering, Tehran, Iran, Dec 25-26 2019. (In Persian)
13. **Karamooz-Ravari M.R.**, Taheri-Andani M. Prediction of the Elastic Response of TPMS Cellular Lattice Structures Using Finite Element Method. In: Solid Freeform Fabrication (SFF 2017), Austin, Texas, USA, August 7-9 2017.
14. **Karamooz-Ravari M.R.**, Taheri-Andani M. Generation of TPMS Cellular Lattice Structures to Fill an Arbitrary Boundary. In: Solid Freeform Fabrication (SFF 2017), Austin, Texas, USA, August 7-9 2017.
15. Naghieh S., **Karamooz-Ravari M.R.**, Sarker M.D., McInnes A.D., Chen X. Modeling of the Mechanical Behavior of 3d-Bioploted Scaffolds. In: 18<sup>th</sup> Annual Alberta Biomedical Engineering Conference, Banff Park Lodge, Banff, Alberta, November 10-12 2017.
16. Saqazadeh Z., **Karamooz-Ravari M.R.** Analysis of Free Axial Vibration of Clamped Nanobeams Using Finite Difference Method. In: 3<sup>rd</sup> National Congress and Workshops on Nanoscience and Nanotechnology, Kerman, Iran, August 23-24 2017. (In Persian)
17. Taheri-Andani M., Dehghani R., **Karamooz-Ravari M.R.**, Mirzaeifar R., Ni J. An Investigation into Spatter Creation During Selective Laser Melting. In: Solid Freeform Fabrication (SFF 2017), Austin, Texas, USA, August 7-9 2017.

- *Presented in the plenary session of the conference* ([Link](#))

18. Zamani H., **Karamooz-Ravari M.R.** Analysis of Free Vibration of Circular Annular Nanoplates Considering Surface Effects. In: 3rd National Congress and Workshops on Nanoscience and Nanotechnology, Kerman, Iran, August 23-24 2017. (In Persian)
19. **Karamooz Ravari M.R.**, Nasr Esfahani S., Taheri Andani M., Kadkhodaei M., Elahinia M. Finite Element Modeling of NiTi Cellular Lattice Structures Considering Microstructural Defects. In: Materials Science & Technology 2015 (MS&T15), Columbus, USA, October 2015.
20. Naghieh S., **Karamooz Ravari M.R.**, Badrossamay M., Foroozmehr E., Kadkhodaei M. Finite Element Analysis for Predicting the Mechanical Properties of Bone Scaffolds Fabricated by Fused Deposition Modeling (FDM). In: Modares Mechanical Engineering, Proceedings of the Advanced Machining and Machine Tools Conference, 2015. vol 13. pp 450-454. (In Persian)
21. **Karamooz Ravari M.R.**, Kadkhodaei M. Finite Element Modeling of the Elastic Modulus of Ti6Al4V Scaffold Fabricated by SLM. In: Poromechanics V: Proceedings of the fifth BIOT conference on Poromechanics, Vienna, Austria, 2013. pp 1021-1028.

- *Awarded the Conference Scholarship* ([Link](#))

22. **Karamooz Ravari M.R.**, Rezaei R., Kadkhodaei M., Badrossamay M. Manufacturability and Mechanical Properties of Lightweight PLA Cellular Lattice Structures Fabricated by FDM. In: International Porous and Powder Materials Symposium and Exhibition (PPM 2013), Cesme-Izmir-Turkey, September 3-6 2013.
23. Mashayekhi M., **Karamooz Ravari M.R.**, Babaei H. Investigation of Effective Parameters in Milling of Elastomers. In: Proceedings of ICME2010 the 10th Iranian Conference of Manufacturing Engineering, Babol Noshirvani University of Technology, Iran, March 2010. (In Persian)

## Book Chapters

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1. **Karamooz-Ravari M.R.**, Kadkhodaei M., Elahinia M. (2021) Microplane Modeling for Inelastic Responses of Shape Memory Alloys. In: dell'Isola F., Igunnov L. (eds) Dynamics, Strength of Materials and Durability in Multiscale Mechanics. Advanced Structured Materials, vol 137, pp. 303-328. Springer, Cham. [https://doi.org/10.1007/978-3-030-53755-5\\_17](https://doi.org/10.1007/978-3-030-53755-5_17)

## Poster Presentations

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1. **Karamooz Ravari M.R.**, Forouzan M.R. (2012) Optimum Geometric Design of Gerotor Pump Tooth Profile. Paper presented at the 1st symposium of Research Day, Isfahan University of Technology, Isfahan, Iran, (In Persian)
2. **Karamooz Ravari M.R.**, Kadkhodaei M. (2013) Finite Element Modeling of Mechanical Properties of Porous Materials. Paper presented at the 2st symposium of Research Day, Isfahan University of Technology, Isfahan, Iran, (In Persian)
3. **Karamooz Ravari M.R.**, Rezaei R., Kadkhodaei M., Badrossamay M. (2013) Manufacturability and Mechanical Properties of Lightweight PLA Cellular Lattice Structures Fabricated by FDM. Paper presented at the International Porous and Powder Materials Symposium and Exhibition (PPM 2013), Cesme-Izmir-Turkey, September 3-6, 2013.

## Patents

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1. Ebrahimi M., Salehi E., Mirzakouchaki P., Shamuli M.J., **Karamooz-Ravari M.R.**, Fabrication of Porous Dental Post Using Vat-Polymerization, Patent Number: 96655, Iran, 2018 ([Link](#))



2. Forouzan M.R., **Karamooz Ravari M.R.**, Foldable Bed Resistant to the Rubble of the Earthquake, Patent Number: 388080711, Iran, 2009 ([Link](#))

## Projects and Activities

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| <b>Scientific Lecture on "Mechanical Metamaterials and Their Engineering Applications"</b><br>Graduate University of Advanced Technology, Kerman, Iran                                                                                                                                                                                              | 2024          |
| <b>Designing Roll-over Protective Structure for D155A Bulldozer</b> ( <a href="#">Link</a> )<br>Negin-e-Gohar-e-KhavarMianeh Company, Sirjan, Kerman, Iran                                                                                                                                                                                          | 2022-2023     |
| <b>Feasibility Study on the Use of Additive Manufacturing (AM) Technology for Repairing Equipment in Steel Industry</b> ( <a href="#">Link</a> )<br>Sirjan Jahan Steel Company, Sirjan, Kerman, Iran                                                                                                                                                | 2020-2021     |
| <b>Assessment of the Existing Temperature and Humidity Control System in Greenhouses at the Graduate University of Advanced Technology: Identifying Detailed Malfunctions, Required Remediations, and Cost Estimation</b> ( <a href="#">Link</a> )<br>Institute of Environmental Sciences, Graduate University of Advanced Technology, Kerman, Iran | 2021          |
| <b>Obtaining the level of technology readiness 2 (TRL2) for the technological product entitled "Bone Memory Implants"</b><br>Iran's Technology Assessment System (SAFA)                                                                                                                                                                             | 2019          |
| <b>Obtaining the level of technology readiness 2 (TRL2) for the technological product entitled "Biodegradable Bone Implants"</b><br>Iran's Technology Assessment System (SAFA)                                                                                                                                                                      | 2017          |
| <b>Scientific Lecture on "The Applications of SMAs in Biomedical Engineering"</b><br>Graduate University of Advanced Technology, Kerman, Iran                                                                                                                                                                                                       | Dec., 2018    |
| <b>Scientific Lecture on "Repair of Metal Parts Using Additive Manufacturing Technologies"</b> ( <a href="#">Link</a> )<br>Graduate University of Advanced Technology, Kerman, Iran                                                                                                                                                                 | Jan. 2022     |
| <b>Workshop on "EndNote Reference Management Software Learning"</b> ( <a href="#">Link</a> )<br>Graduate University of Advanced Technology, Kerman, Iran                                                                                                                                                                                            | May 2018      |
| <b>Workshop on "EndNote Reference Management Software Learning"</b><br>Graduate University of Advanced Technology, Kerman, Iran                                                                                                                                                                                                                     | Dec. 2017     |
| <b>Workshop on "Three-dimensional Nanobioprinting for Tissue Regeneration"</b> ( <a href="#">Link</a> )<br>Presented in 3rd National Congress and Workshops on Nanoscience and Nanotechnology, Kerman, Iran                                                                                                                                         | Aug. 23, 2017 |
| <b>Design and Modeling of Cellular Dental Posts</b> ( <a href="#">Link</a> )<br>Islamic Azad University of Khorasgan, Isfahan, Iran                                                                                                                                                                                                                 | 2014          |
| <b>Design of a Towing Tank Structure for Minimizing the Vibration of the Test Samples</b><br>Aero-Maritime Science & Research Center, Isfahan, Iran                                                                                                                                                                                                 | 2008          |
| <b>Foundation of Young Scholars Association</b> ( <a href="#">Link</a> )<br>Ministry of Education, Ravar, Kerman, Iran                                                                                                                                                                                                                              | 2003          |

**Reviewer of Academic Materials ([Link](#))**

More than 50 Journal papers, Conference papers, Books, and Research Plans

## Honors and Awards

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**Trusted Reviewer ([Link](#))**

IOP Publishing

**The Top Researcher ([Link](#))**

Faculty of Mechanical and Materials Engineering, Graduate University of Advanced Technology. Kerman, Iran

2021

**Top Student ([Link](#))**

Department of Mechanical Engineering, Isfahan University of Technology. Isfahan, Iran

2006

**Top Student ([Link](#))**

Department of Mechanical Engineering, Isfahan University of Technology. Isfahan, Iran

2005

## Licenses and Certifications

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**Movement Therapy ([Link](#))**

The Higher School of Sport. Kerman, Iran.

2018

**Attendance to the Workshop: How to Write and Publish a Scientific Writing ([Link](#))**

3<sup>rd</sup> National Congress and Workshops on Nanoscience and Nanotechnology, Kerman, Iran.

2017

**Attendance to the Workshop: Improving the Quality of Research**

Graduate University of Advanced Technology. Kerman, Iran.

2017

**Attendance to the Workshop: Modeling of Shape Memory Alloys under Multi Axial and Cyclic Loadings ([Link](#))**

Department of Mechanical Engineering, Isfahan University of Technology, Isfahan, Iran.

2013

**Stock Exchange and Capital Market ([Link](#))**

Entrepreneurship Center of Isfahan University of Technology, Isfahan, Iran.

2008

**Business Skills ([Link](#))**

Bureau of Labor and Social Affairs. Isfahan, Iran.

2008

## Skills

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**ABAQUS Finite Element Package (Proficient)**

Static and Dynamic Analysis, Scripting, Writing User Subroutines

**Programming**

MATLAB (Proficient), Python (Proficient), Fortran (Competent)

**PV Elite (Competent)**

Design and Analysis of Pressure Vessels



**Microsoft Office**

Word (Proficient), PowerPoint (Proficient), Excel (Competent)

**Autodesk Inventor (Proficient)**

CAD Modeling, FE Analysis, Dynamic Simulations

**ANSYS Finite Element Package (Beginner)**

Static and Dynamic Modeling

**Adobe Photoshop (Beginner)****MAPLE (Beginner)****Rhino (Competent)****Electrical Board Repair (Beginner)**

## Language Skills

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**English:** Competent (IELTS 7.0)

**Persian:** Native

## Teaching Experience

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|--------------------------------------------------------------------------------------------------------|-----------|
| <b>Additive Manufacturing</b><br>Graduate University of Advanced Technology. Kerman, Iran.             | 2016-2021 |
| <b>Finite Element Method</b><br>Graduate University of Advanced Technology. Kerman, Iran.              | 2023      |
| <b>Finite Element Method</b><br>Bahonar University. Kerman, Iran.                                      | 2022-2023 |
| <b>Advanced Engineering Design</b><br>Graduate University of Advanced Technology. Kerman, Iran.        | 2017-2022 |
| <b>Advanced Engineering Mathematics I</b><br>Graduate University of Advanced Technology. Kerman, Iran. | 2016-2023 |
| <b>Advanced Vibration</b><br>Graduate University of Advanced Technology. Kerman, Iran.                 | 2016-2023 |
| <b>Mechanics of Smart structures</b><br>Graduate University of Advanced Technology, Kerman, Iran.      | 2017-2018 |
| <b>Mechanic of Materials</b><br>Isfahan University of Technology, Isfahan, Iran.                       | 2011      |
| <b>Mechanics of Materials Laboratory</b><br>Isfahan University of Technology, Isfahan, Iran.           | 2011      |

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|----------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Teacher Assistant: Statics</b><br>Isfahan University of Technology, Isfahan, Iran.                                            | 2008-2011 |
| <b>Teacher Assistant: Dynamics</b><br>Isfahan University of Technology, Isfahan, Iran.                                           | 2009-2013 |
| <b>Teacher Assistant: Machine Design</b><br>Isfahan University of Technology, Isfahan, Iran.                                     | 2012-2014 |
| <b>Teacher Assistant: Advance Engineering Mathematics (for PhD students)</b><br>Isfahan University of Technology, Isfahan, Iran. | 2012      |

## Students' Thesis

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### *Supervisor*

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| <b>Numerical Investigation of the Energy Absorption Capability of the Novel Triply Periodic Minimal Surfaces Cellular Lattice Structures</b><br>MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.     | 2023-Present |
| <b>Numerical Investigation of the Effects of Microstructural Feathers of Selectively Laser Melted Metal Parts on Their mechanical response</b><br>MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.   | 2023-Present |
| <b>Rollover Protective Structures Design for Komatsu D155A Crawler Bulldozer</b><br>MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.                                                                 | 2022-2024    |
| <b>Design and Manufacture of Metal Deposition 3D Printer</b><br>MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.                                                                                     | 2022-2024    |
| <b>Optimization of Cellular Lattice Structures' Struts in order to Control Their Mechanical Response</b><br>MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.                                         | 2021-2024    |
| <b>Design of Extruder for High-Strength Thermoplastic Polymers</b><br>MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.                                                                               | 2020-2023    |
| <b>Design and Fabrication of a Plastering Robot</b><br>MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.                                                                                              | 2020-2023    |
| <b>Investigation of the Effects of Geometrical Parameters of Cellular Lattice Structures on Their Frequency Response and Damping Coefficient</b><br>MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran. | 2019-2021    |
| <b>Design and Fabrication of Rotating Motors Using Shape Memory Alloys</b><br>MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.                                                                       | 2018-2020    |
| <b>Fabrication and Characterization of Metallic Cellular Lattice Structures Using Indirect Additive Manufacturing</b><br>MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.                            | 2017-2019    |
| <b>Implicit Implementation of the 3D constitutive Model of Shape Memory Alloys Based on Microplate Theory</b><br>MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.                                    | 2016-2019    |

**Numerical Investigation on the Effects of Strain Rate on the Mechanical Response of Cellular Materials** 2015-2017  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

#### *Advisor*

**Experimental Investigation of Mechanical Properties of Auxetic Lattice Structures 3D Printed by Fused Deposition Modeling** 2023-2025  
MSc. Thesis, Babol Noshirvani University of Technology, Babol, Iran

**Investigation of Oxidation Behavior of Crofer 22 APU Steel at Presence of Co/CeO<sub>2</sub>/ZrO<sub>2</sub> Composite Coating for Application of Solid Oxide Fuel Cells** 2022-Present  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Investigation of Oxidation Behavior of Crofer 22 APU Steel Coated with Ni-Co-Mn-CeO<sub>2</sub>-La<sub>2</sub>O<sub>3</sub> Electrochemical Deposition for Solid Oxide Fuel Cells** 2022-Present  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Design to Improve the Efficiency of the Mechanical Slag Skimmer Device** 2021-Present  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Topology Optimization of a Soft Robotic Gripper** 2021-2023  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Design and Construction of an Aircraft Wing Model Using Morphing Technology** 2021-2023  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Design and Construction of a Cartesian Platform for Being Used in 3D Printers** 2020-2023  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Design and Fabrication of a Robotic Soft Gripper with Shape Memory Alloy Actuator** 2020-2022  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Design and Fabrication of Filament Extruder Machine** 2018-2020  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Dynamic Modeling of a Soft Micro - Robot Equipped with Shape Memory Alloy Actuator** 2018-2020  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Design, Manufacturing and Kinematics Analysis of Body - Power Partial Hand Prosthesis** 2018-2020  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Dynamic Analysis of a Wearable Shoulder Rehabilitation Robot** 2018-2020  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Designing and Fabrication of a New Active Workstation and Evaluation of Its Usability and Effects of Physiological, Biomechanical, Cognitive, and Functional Skills During Computer Activity in Normal and Obese Office Workers** 2018-2022  
PhD Thesis, Shiraz University of Medical Sciences

**Dynamic Analysis and Control of a Continuum Robot by Magnetic Actuators** 2017-2019  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Design and Fabrication of Large Joints and Muscles Rehabilitation Device** 2017-2019

MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Dynamic Modeling and Control of a Class of Driving - Cables Continuum Manipulators** 2017-2019  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Size and Number Distribution Investigation of Spatter During Selective Laser Melting (SLM) Using Images Processing Method** 2016-2018  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Dynamic Analysis and Control of Continuum Robots Equipped with Shape Memory Alloy Actuators** 2016-2018  
MSc. Thesis, Graduate University of Advanced Technology, Kerman, Iran.

**Investigation of Topology and Porosity on the Mechanical Properties of Resin Made Cellular Lattice Structures Fabricated by Three-Dimensional and Four-Dimensional Printing Technology** 2016-2018  
MSc. Thesis, Isfahan University of Technology, Isfahan, Iran.

**Investigation of Beam-Column Connection Equipped with Shape Memory Alloys** 2014-2016  
MSc. Thesis, Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran

**Investigation of Mechanical Behavior of Artificial Heart Valve and Femoral Artery Stents Made of SMA Based on Microplane Theory** 2013-2015  
MSc. Thesis, Vali-e-Asr University of Rafsanjan, Rafsanjan, Iran

## References

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