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EDUCATION

Ph.D In Mechanical Engineering (Robotics)

Bu-Ali Sina University

2008-2013

PUBLICATIONS

Articles

- 1- Fazeleh Tavasolian, Hassan Khotanlou, and **Payam Varshovi-Jaghargh**, “*Forward kinematic analysis of spatial parallel robots using a parallel evolutionary neural networks*”. Iranian Journal of Science and Technology, Transactions of Mechanical Engineering, 47(3), pp. 1079-1092, 2023.
- 2- **Payam Varshovi-Jaghargh**, Mehdi Tale-Masouleh, Mehdi Karimi and Fatemeh pourkariman, “*Workspace of 3-RRR parallel robot using the combination of interval analysis and refinement methods by considering the limitation of active joints movement*”. Journal of Solid and Fluid Mechanics, 13(3), 2023.
- 3- Fazeleh Tavasolian, Hassan Khotanlou, and **Payam Varshovi-Jaghargh**, “*Forward kinematic analysis of planar parallel robots using a neural network-based approach optimized by machine learning*”. Journal of Nonlinear Systems in Electrical Engineering, 6(2), pp. 51-73, 2020.
- 4- **Payam Varshovi-Jaghargh**, Mehdi Tale-Masouleh, and Davod Naderi, “*Forward Kinematic Analysis of Parallel Mechanisms in Seven-Dimensional Kinematic Space by Considering Limitation of Passive Joints motion*”. Iranian Journal of Science and Technology, Transactions of Mechanical Engineering (Springer), 43(2), pp. 315-329, 2019.
- 5- Zolfa Anvari, **Payam Varshovi-Jaghargh**, and Mehdi Tale-Masouleh, “*The Mechanical interference-free workspace of the planar parallel robots using geometric approach*”, Modares Mechanical Engineering, 17(4), pp. 101-110, 2017.
- 6- Naderi, Davod, Tale-Masouleh, Mehdi and **Payam Varshovi-Jaghargh**, “*Gröbner basis and resultant method for the forward displacement of 3-DoF planar parallel manipulators in seven-dimensional kinematic space*”, Robotica, 34(11), pp. 2610-2628. 2016.
- 7- **Payam Varshovi-Jaghargh**, Naderi, Davod and Tale-Masouleh, Mehdi, “*Forward Kinematic Problem of Three 4-DOF Parallel Mechanisms (4-PRUR₁, 4-PRUR₂ and 4-PUU) with Identical Limb Structures Performing 3T1R Motion Pattern*”, Scientia Iranica, Transactions B - Mechanical Engineering, 21(5), pp. 1671-1682. 2014.

- 8- Davod Naderi, Mehdi Tale-Masouleh, and **Payam Varshovi-Jaghargh**, “*Forward Kinematic Investigation of Three 4-DOF Parallel Robots with Prismatic Actuators Performing 3T1R Motion Pattern in Seven-dimensional Kinematic Space*”. Modares Mechanical Engineering, 13(10), pp. 35-50, 2014.
- 9- **Payam Varshovi-Jaghargh**, Davod Naderi, and Mehdi Tale-Masouleh, “*Forward kinematic problem of two 4-RRUR with different geometric structures and one 4-RUU parallel robots*”. Modares Mechanical Engineering, 12(4), pp. 105-119, 2012.
- 10- Faramarz Fereshteh-Saniee, **Payam Varshovi-Jaghargh**, “*Determination of effective strain distribution in multistage forging process using viscoplasticity method*”, Steel research international (Special issue), Vol 2, pp 764-771, 2008.
- 11- Faramarz Fereshteh-Saniee, **Payam Varshovi-Jaghargh**, “*An experimental comparative study of blocker die design for axisymmetric forging components*”, Steel research international (Special issue), Vol. 1, pp 427-434, 2008.

Conferences

- 1- **Payam Varshovi-Jaghargh** and Farideh Fooladi, “*Forward kinematics analysis 4-PUU parallel robot using combination of neural network and machine learning (in Persian)*”, 28th Annual International Conference of Mechanical Engineering (ISME2020), Amirkabir University of Technology, Tehran, Iran, 27-28 May 2020.
- 2- Fazeleh Tavassolian, Hassan Khotanlou, **Payam Varshovi-Jaghargh**, “*Forward kinematics analysis of a 3-PRR planer parallel robot using a combined method based on the neural network*” 8th International Conference on Computer and Knowledge (ICCKE 2018), Ferdowsi University of Mashhad, Iran, 25-27 October 2018 (IEEE).
- 3- Fatemeh pourkariman, **Payam Varshovi-Jaghargh** and Mehdi Tale-Masouleh, “*Workspace Analysis of the 3-RRR planar parallel robot using interval analysis (in Persian)*”, 25th Annual International Conference of Mechanical Engineering (ISME2017), Tarbiat Modares University, Tehran, Iran, 2-4 May 2017.
- 4- **Payam Varshovi-Jaghargh** and Setareh Habibollahi, “*Path planning of the mobile robot in crowded environments with moving obstacles (in Persian)*”, 25th Annual International Conference of Mechanical Engineering (ISME2017), Tarbiat Modares University, Tehran, Iran, 2-4 May 2017.
- 5- Zolfa Anvari, **Payam Varshovi-Jaghargh** and Mehdi Tale-Masouleh, “*Mechanical interference-free workspace of 3-RRR plane parallel robot (in Persian)*”, 25th Annual International Conference of Mechanical Engineering (ISME2017), Tarbiat Modares University, Tehran, Iran, 2-4 May 2017.
- 6- **Payam Varshovi-Jaghargh** and Farideh Fooladi, “*Forward kinematics analysis of planar parallel robots considering the limitation of active joints movement (in Persian)*”, 24th Annual International Conference of Mechanical Engineering (ISME2016), Yazd University, Yazd, Iran, 26-28 April 2016.



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- 7- **Payam Varshovi-Jaghargh** and Fatemeh Ramezani, “*Workspace Analysis of the spatial 3-DoF parallel robots with motion pattern of three translations* (in Persian)”, 24th Annual International Conference of Mechanical Engineering (ISME2016), Yazd University, Yazd, Iran, 26-28 April 2016.
- 8- **Payam Varshovi-Jaghargh** and Azadeh Mirzaei, “*Forward kinematics analysis of parallel robots using Gröbner basis* (in Persian)”, 23th Annual International Conference of Mechanical Engineering (ISME2015), Amirkabir University of Technology, Tehran, Iran, 12-14 May 2015.
- 9- **Payam Varshovi-Jaghargh** and Milad Azizi, “*Workspace determination of 3-DoF planar parallel robots using the geometric method* (in Persian)”, 23th Annual International Conference of Mechanical Engineering (ISME2015), Amirkabir University of Technology, Tehran, Iran, 12-14 May 2015.
- 10- **Payam Varshovi-Jaghargh**, Davod Naderi, Mehdi Tale-Masouleh, “*Forward kinematic analysis of 4-DOF parallel robots with identical limb structures and 3T1R motion pattern using resultant method* (in Persian)”, First RSI/ISM International Conference on Robotics and Mechatronics (ICRoM 2013), Sharif University of Technology, Tehran, Iran, 13-15 February 2013.
- 11- Davod Naderi, Mehdi Tale-Masouleh, and **Payam Varshovi-Jaghargh**, “*Forward kinematic problem of 4-DOF 4-PRUR parallel mechanisms with identical limb structures performing 3T1R motion pattern* (in Persian)”, 20th Annual Conference of Mechanical Engineering (ISME2012), Shiraz university, Shiraz, Iran, 15-17 May 2012.
- 12- **Payam Varshovi-Jaghargh** and Davod Naderi, “*Path planning of wheeled mobile robot using a new objective function*”, 26th International Conference of CAD/CAM, Robotics & Factories of the Future, Kuala Lumpur, Malaysia, 26-28 July 2011.
- 13- Mehdi Karimi, **Payam Varshovi-Jaghargh** and Ali Morovatipasand, “*Modification of Fajen and Warren's method in path planning of Wheeled mobile robot and its comparison with other methods* (in Persian)”, 19th Annual Conference on Mechanical Engineering (ISME2011), Birjand university, Birjand, Iran, 10-12 May 2011.
- 14- Faramarz Fereshteh-Saniee, **Payam Varshovi-Jaghargh**, “*A Comparison between blocker design rules using model tests under plane-strain conditions* (in Persian)” 2nd Tehran International Congress on Manufacturing Engineering (TICME2007), Iran University of Science & Technology, Tehran, Iran, 27-29 February 2008.
- 15- **Payam Varshovi-Jaghargh** Faramarz Fereshteh-Saniee, “*A Comparative study of various blocker design rules based on strain distribution determination in the model tests* (in Persian)” 2nd Tehran International Congress on Manufacturing Engineering (TICME2007), Iran University of Science & Technology, Tehran, Iran, 27-29 February 2008.
- 16- Faramarz Fereshteh-Saniee, **Payam Varshovi-Jaghargh**, “*A comparative investigation on blocker design rules for an axisymmetric component using model tests* (in Persian)” 2nd Tehran International Congress on Manufacturing Engineering (TICME2007), Iran University of Science & Technology, Tehran, Iran, 27-29 February 2008.



ACADEMIC POSITIONS

COURSES OFFERED

Dynamics

Dynamics of Machinery

Robotics

Statics

Robot Sensors

Artificial Neural Networks

Industrial Drawing

FIELDS OF INTEREST

Kinematics and Dynamics of Parallel Robots

Workspace of Parallel Robots

Path Planning of Mobile Robot

Artificial Neural Networks

Geometric Algebra

Interval Analysis