Hadi Parvaz

PhD of Mechanical Engineering

Faculty of Mechanical and Mechatronics Engineering, Shahrood University of Technology, Shahrood, Iran.
(ZIP/Postal code: 3619995161)
Tel: (+98) (23) 32300240

h.parvaz@shahroodut.ac.ir
hadi.parvaz@yahoo.com

Education

PhD Mechanical Engineering 6/2016
Tarbiat Modares University

- Advisor: Dr. Mohammad Javad Nategh (Associate professor)
- Thesis: "Analysis and design of automatic locating system for parts with NURBS surfaces and development of integrated platform for CAFD"
- GPA: 4.0/4.0

M.Sc. Mechanical Engineering 8/2011
Tarbiat Modares University

- Advisor: Dr. Mohammad Javad Nategh (Associate professor)
- Research Project: "Development of automatic feature recognition module for CAD/CAM integrated system"
- GPA: 4.0/4.0 (Top student in class) Graduated with Honors

B.S. Mechanical Engineering 8/2009
Tabriz state university

- GPA: 3.67/4.0 (Top 10% of class)

Research interests

- Computer Aided Fixture Design (CAFD)
- 3D Print Technology (Laser assisted technologies)
- Knowledge-based manufacturing systems
- CAD-based application development
- Software development in CAFD
- Computer Aided Process Planning (CAPP)

Experiences

Teaching

- Faculty member, Shahrood University of Technology, 2016-(continue).
- Lectured "CAD/CAM", "English for mechanical engineering students" in university of applied science and technologies (UAST) – (several semesters) 2011-2016.
- Lectured "CAD/CAM", "CAPP" and "Jigs & fixture design" in Islamic Azad University - (several semesters) 2011-2015.
- Supervised several B.S and M.Sc theses.
- Presentation of GD&T training course in Ravian Pars® engineering consultation group 2013.

Computer Skills

CAD

- Solidworks – almost full working experience with different modules, running scripts with APIs for feature recognition.
- CATIA – Modeling of various geometries, FEM analysis of structures, reverse engineering of some models and G-Code extraction for machining parts.
- AutoCAD – 2D drawings.

CAM

- Powermill – G-code extraction for varieties of milling parts.
- MasterCAM - G-code extraction for varieties of milling and lathe parts.

FEM

- Abaqus – structural, fluid, simulation of shaping processes besides running scripts for automatic structural analysis intended for support system design.

- Ansys – structural and fluid simulations.

Programming

- VB (VBA) – writing extensive codes for feature recognition in Solidworks®.
- Python – implementing fully independent CAFD software with its connections and integration.
- Fortran
- C/C++

Others

- MATLAB – writing m-files for different purposes, simulating control systems with Simulink.
- Labview – working with block diagrams and communication modules for making connection with CNC controller.
- Adams
- Microsoft Office – with international degree.

Languages

English – fluent in speaking (passed full 4-level degrees of Jahad English academy as top student)

Persian (native)

Turkish

Awards and Honors

- Distinguished Faculty member, *selected by* Vice President of academic and graduate office, Shahrood University of Technology, 2018.
- Top lecturer, Islamic Azad university of Takestan and university of applied science and technologies (UAST), 2015-2016.
- Sabbatical short-time research period – HCCL Lab. Supervised by Professor KunWoo Lee, Seoul National University.
- Graduated with honors – Tarbiat Modares University, Tehran, Iran 2011.
- Member of talented students' office - Iran ministry of science and research 2011.
- Member of national institute of elite persons – Iran vice president for science and research 2013.

Publications

Journal articles

Parvaz, H. and Nategh, M.J., 2018. Development of locating system design module for freeform workpieces in computer-aided fixture design platform. Computer-Aided Design, 104, pp.1-14.

Nategh, M.J. and **Parvaz, H.**, 2018. Development of computer aided clamping system design for workpieces with freeform surfaces. Computer-Aided Design, 95, pp.52-61.

Parvaz, H. and Sadat, S.A., 2018. On the Application of N-2-1 Locating Principle to the Non-rigid Workpiece with Freeform Geometry. Springer Lecture Notes on Mechanical Engineering, pp. 117-126.

Manafi, D., Nategh, M.J. and **Parvaz, H.**, 2017. Extracting the manufacturing information of machining features for computer-aided process planning systems. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 231(12), pp.2072-2083.

Parvaz, H. and Nategh, M.J., 2016. Development of an efficient method of jamming prediction for designing locating systems in computer-aided fixture design. The International Journal of Advanced Manufacturing Technology, 86(9-12), pp.2459-2471.

Parvaz, H. and Nategh, M.J., 2016. Design of clamping system for workpiece with freeform geometry. Modares Mechanical Engineering, 16(9), pp.195-206.

Parvaz, H. and Nategh, M.J., 2016. Stability analysis of free-form workpieces in fixtures. Modares Mechanical Engineering, 16(2), pp.245-252.

Parvaz, H. and Nategh, M.J., 2016. Analysis of jamming in locating systems of fixtures using minimum norm principle. Modares Mechanical Engineering, 15(20), pp.124-128.

Parvaz, H. and Nategh, M.J., 2016. Analytical model of locating system design for parts with free form surfaces. Modares Mechanical Engineering, 15(20), pp.129-133.

Parvaz, H. and Nategh, M.J., 2013, A pilot framework developed as a common platform integrating diverse elements of computer aided fixture design. *International journal of production research*, 51 (22), 6720-6732.

Parvaz, H. and Nategh, M.J., 2012, A multi-TAD framework for recognizing machining features using hint based recognition algorithm. Advanced Material research, 445, 905-910.

Parvaz, H. and Nategh, M.J., 2012, Modeling the hydrodynamic lubrication function of scrapings in machine tool slideways. Advanced Material research, 445, 1035-1040.

Conference papers

Parvaz, H., 2018, Numerical investigation of the effect of coefficient of friction on fixturing characteristics of freeform workpieces, The 26th Annual International Conference of Iranian Society of Mechanical Engineers-ISME2018, Semnan, Iran.

Parvaz, H., 2018, Stress Analysis in Fixturing of Flexible Workpieces during Riveting Process, International Conference on Mechanics of Advanced Materials and Equipment, Ahvaz, Iran.

Parvaz, H., 2018, Numerical analysis of forces on locating agents in fixturing of flexible workpieces with freeform geometry, International Conference on Mechanics of Advanced Materials and Equipment, Ahvaz, Iran.

Parvaz, H., Nategh, M.J., 2014, Development and Implementation of a Feature Based Semi-automatic Production System, National conference on mechanical engineering of Iran, Shiraz, Iran.

Parvaz, H., Nategh, M.J., 2014, A multi-TAD automatic machining feature recognition framework using hybrid approach, National conference on mechanical engineering of Iran, Shiraz, Iran.

Parvaz, H. and Nategh, M.J., 2012, Interacting and advanced machining feature recognition using novel concept of convexity degree, ISME international conference, Shiraz, Iran.