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Work Experience تجربیه کاری

Shahrood University of Technology دانشگاه صنعتی شاهرود Iran
Assistant Professor
Department of Manufacturing & Pro,
Faculty of Mechanical Engineering, 2019-present

Sharif University of Technology دانشگاه صنعتی شریف Iran
Visiting Assistant Professor
School of Mechanical Engineering, 2018-2019

Education تحصیلات

Keio University دانشگاه کی ئو Tokyo, Japan
Ph.D. Department of Mechanical Engineering, March 2018
Thesis: Material removal mechanism and surface integrity in ultraprecision cutting of porous materials.

Ferdowsi University of Mashhad دانشگاه فردوسی مشهد Iran
Master of Science, Department of Mechanical Engineering, June 2009
Thesis: Determination of process parameters to optimize manufacturing process using intelligent algorithms: MIG/MAG welding case study

Iran University of Science and Technology دانشگاه علم و صنعت ایران Iran
Bachelor of Science, Department of Mechanical Engineering, July 2007
Thesis: A review on recent advances in the machining process

Awards افتخارات

Japan JSPE Young Researcher Award, 2017 جایزه محقق جوان سال ژاپن
Iran's National Elites Foundation Postdoctoral Fellowship, 2018-2019
برنده حمایت مالی بنیاد نخبگان برای دوره پسا دکتری
Ph.D. Program Scholarship, 2014-2018 دریافت اسکولارشیپ دوره دکترا
Keio University KLL Ph.D. Program Research Grant, 2015-2017
برنده گرنت تحقیقاتی دانشگاه کی ئو سه سال متوالی
Exemplary Teaching Professor (or Outstanding Educator) of the faculty (2023)
استاد نمونه آموزشی دانشکده در سال ۱۴۰۲
Top Faculty Researcher in Industry Relations (2025).
پژوهشگر برتر دانشگاه در حوزه صنعت ۱۴۰۴
Ranked Second in M.Sc. Program رتبه دوم در دوره کارشناسی ارشد
Khorasan Razavi Gas Company Research Grants for Graduate Students, 2008-2010
برنده قرارداد تجاری برای پایان نامه کارشناسی ارشد از شرکت گاز خراسان

Teaching Courses
تدریس

Machining, Tooling Systems and Machine Tool ماشینکاری، ابزارشناسی و ماشین ابزار
Metal cutting Mechanics مکانیک برش فلزات
Metallurgy & Material Science متالورژی و علم مواد
Micro-Manufacturing Technology تکنولوژی ساخت در ابعاد میکرو
Planning for Machining Processes طراحی فرآیندهای ماشینکاری
Mechanics of Materials مکانیک مواد
Additive Manufacturing technology تکنولوژی ساخت افزایشی

Research Interests
علاقمندی های تحقیقاتی

Ultraprecision Machining ماشینکاری فوق دقیق
Machining Difficult-to-Cut Materials ماشینکاری مواد سخت
Micro/Nano Manufacturing میکرو نانو ساخت
Analysis of Microstructure تحلیل ریزساختار
Mechanics of Materials, Fatigue & Failure مکانیک مواد، خستگی و شکست
Machine Tools and Wear ماشین ابزار و سایش
Advanced Manufacturing Processes فرآیند های پیشرفته ساخت
Additive Manufacturing Technologies تکنولوژی ساخت افزایشی
Composite and Special Material کامپوزیت ها و مواد خاص

Industrial Projects
پروژه های صنعتی

شرکت توسعه قوای محرکه دینا
Dinamotor powertrain company

- اصلاح و ارائه روش پیشنهادی جدید در فرآیند تولید طبق ورق خودرو در جهت بهبود عمر خستگی

Improving Fatigue Life in Sheet Suspension Knuckle Production Through Modified and Innovative & Novel Methods

معاونت فناوری ریاست جمهوری
Vice Presidency for Science and Tech

- فعالیت های مرتبط با ماشینکاری فوق دقیق مواد پیشرفته (سیلیکون) برای ساخت دقیق

Activities related to ultra-precision machining of advanced materials (Silicon) for precision manufacturing

شرکت توسعه قوای محرکه دینا
Dinamotor powertrain company

- تحلیل خرابی و بهبود هندسه طبق مثلثی خودرو ری را در جهت افزایش استحکام خستگی در آزمون های صحه گذاری

Failure Analysis and Geometry Improvement of the Rira Vehicle’s Suspension Knuckle to Enhance Fatigue Strength in Validation Tests

پارک علم و فناوری استان سمنان
Semnan Science and Technology Park

- طراحی ساخت دستگاه روانکار کمینه برای سیستم خنکاری و روانکاری در فرآیند ماشینکاری

Design and fabrication of a Minimum Quantity Lubrication (MQL) device for machining cooling and lubrication systems

شرکت ویراتک برتر پارس
Viratech Bartar Pars Company

- خدمات مهندسی و مشاوره در فرآیند تحقیق و توسعه شرکت ویراتک برتر پارس
  Engineering consulting services and support for Research and Development (R&D) processes

شرکت توسعه قوای محرکه دینا
Dinamotor powertrain company

- تحلیل تنش، ارزیابی خستگی و شرایط مونتاژی میل لنگ فولادی چند پارچه
  Stress analysis, fatigue evaluation, and assessment of assembly conditions for multi-piece steel crankshafts

صنایع اپتیک
Optics

- شناسایی مکانیزم سایش ابزار الماس در تراشکاری فوق دقیق سیلیکون
  Investigation of diamond tool wear mechanisms in the ultra-precision turning of silicon

شرکت توسعه قوای محرکه دینا
Dinamotor powertrain company

- بررسی، ارزیابی و امکان سنجی استفاده از روش تولید و جنس (داخلی) جدید برای تولید طبق مثلثی خودرو دنا
  Investigation, evaluation and feasibility of using new material (domestic) and manufacturing method to produce DENA Vehicle's Suspension Knuckle

Publications
مقالات

Diamond tool life and surface integrity during ultra-precision machining of single-crystal silicon, *Engineering Research Express*, 7 (4), 2025

Molecular dynamics investigation into the effect of nano-void size on cutting parameters in copper single crystal, *SADHANA*, 47 (1), 2022.

Analysis of the effect of indenter deformation and presence of voids on silicon nanoindentation using molecular dynamics simulation, *AUT Journal of Mechanical Engineering, 2021.*

Effect of nano clay, nano-graphene oxide and carbon nanotubes on the mechanical and tribological properties of crosslinked epoxy nanocomposite, *PLOS ONE*, 16(11), 2021

Improvement of Fatigue Life and Dynamic Strength of an Engine Mounting Bracket Using Experimental and Numerical Approaches, *Iranian Journal of Science and Technology, Transactions of Mechanical Engineering,* 2021.

Analysis of the Effects of Machining Loads on Online Values of Reaction Forces in Fixture Locating System, *Modares Mechanical Engineering,* 21 (9), 2021.

Modelling and Optimization of Surface Roughness and Specific Tool Wear in Milling Process, *Tehnički vjesnik*, 28 (5), 2021.

An investigation of the effect of bolt tightening stress on ultrasonic velocity in cylinder head and main bearing cap bolts of diesel engine, *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 43(8), 2021.

Design and fabrication of an online inductive sensor for identification of ferrous wear particles in engine oil, *Industrial Lubrication and Tribology*, 73(4), 2021.

Modeling of jamming phenomenon in fixture design application: an analytical, numerical, and experimental study, *Multibody System Dynamics*, 52, pp. 229–253, 2020.

Effects of tool rake angle and tool nose radius on surface integrity of ultraprecision diamond turned porous silicon, *Journal of Manufacturing Processes*, 37, 2019.

Analysis and Modeling of Damage and Crack Growth in Composite Workpieces under Machining Process using the Bond-Based Peridynamic Theory, *Modares Mechanical Engineering*, 2023.

An investigation on the effect of interference clearance of bushing on fatigue strength in triangle suspension, *The Journal of Engine Research*, 2022

An experimental and numerical study of tool geometry effect on microfracture characteristics in micro/nano machining of brittle porous structure, *Iranian Journal of Manufacturing Engineering,* 6 (5), pp. 47-52, 2019.

Material removal mechanism and surface integrity in ultraprecision cutting of porous titanium. *Precision Engineering*, 52, pp.356-369, 2018.

Nanometric-scale chip formation behavior of pure titanium in diamond turning. *The International Journal of Advanced Manufacturing Technology,* 95(1–4), pp.479–492, 2017.

Ultraprecision surface flattening of porous silicon by diamond turning. *Precision Engineering*, 49, pp.262–277, 2017.

Fundamental characteristics of material removal and surface formation in diamond turning of porous carbon. *International Journal of Additive and Subtractive Materials Manufacturing*, 1(1), p.23, 2017.

A New Approach for Predicting and Optimizing Weld Bead Geometry in GMAW. *International Journal of Mechanical Systems Science and Engineering*, 5(2), pp.138–142, 2011.

Loading Path Optimization of T-shape Tube Hydroforming Process. *Steel research international*, 81(9), pp.524–527, 2010.

Modeling and optimization of MAG welding for gas pipelines using regression analysis and simulated annealing algorithm. *Journal of Scientific & Industrial Research*, 69(4), pp.259–265, 2010.

Effects of pore size and cutting scale on machining of porous titanium, Proceedings of 5th Annual of International Conference on Materials Science, Metal and Manufacturing, Singapore, 2018.

Chip formation and surface integrity in diamond turning of porous titanium, Japan Society for Precision Engineering Spring Meeting, Tokyo, Japan, 2018.

Ultraprecision surface flattening of porous single-crystal silicon by diamond turning. In International Symposium on Micro-Nano Science and Technology. Tokyo, Japan, 2016.

Investigation on surface formation mechanism of porous carbon in diamond turning. In Proceedings of the 8th International Conference on Leading Edge Manufacturing in 21st Century, LEM 2015. Kyoto, Japan: Japan Society of Mechanical Engineers, pp. 4–9, 2015.

An Investigation into the Optimization of Loading Path in T-shape of Tube Hydroforming. In Proceeding of the 10th International Conference, NUMIFORM. Pohang, Korea pp. 1101–1108, 2010.

Activities
فعالیت ها

Member, The Japan Society for Precision Engineering
Member, Iran's National Elites Foundation
Member, The Academic Society of Iranians in Japan
Member, The Society of Manufacturing Engineering of Iran
Reviewer, International Journal of Machine Tools and Manufacture, Elsevier
Reviewer, Journal of Manufacturing Processes, Elsevier
Reviewer, International Journal of Mechanical Sciences, Elsevier
Reviewer, Advances in Manufacturing, Springer
Reviewer, Optics & Laser Technology Journal, Elsevier
Reviewer, International Journal of Advanced Manufacturing Technology, Springer