

Curriculum vitae

Dr. Ketaki Narendra Joshi
Assistant Professor (Senior Scale)
(Department of Mechanical Engineering)
& Incharge R&D
Fr. Conceicao Rodrigues College
of Engineering,
Fr. Agnel Ashram, Bandstand,
Bandra (W), Mumbai - 400050
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Brief Summary: -

Highest Qualification-Ph.D. (Science and Technology) in Mechanical Engineering

Total University Approved Teaching Experience: - 6 Years 9 Months

Industry Experience: - 5 Years 1 Month

Number of research publications in SCI journals / Scopus / UGC / AICTE approved list of journals = 7

Number of research publications: Journal - 10, Conference - 10, Book Chapter - 1

Approved PG Teacher by University of Mumbai from May 2021

Number of IPRs Design Patents :- 3 Design Patents

Administrative Responsibilities Handled at Institute Level: -

- Incharge (Research and Development) in the A. Y. 2022-23
- Publication Committee Coordinator at ICAC3'21 International Conference
- Member of Research and IPR Cell 2019-2021
- NIRF Coordinator 2019-2021
- FragMag College Magazine Convenor 2019-2021
- NAAC Committee criterion I Coordinator (2020-21,2021-22)
- NAAC Committee criterion III Coordinator (2022-23)
- Website Content Development for Department
- Member of IIC-Fr.CRCE

Other Credentials: -

- 2 Best Paper awards
- TCS Gems Award
- Session chair at National and International Conferences, Idea Competition, IIIE Mumbai Chapter Awards
- Invited Guest Lectures during FDP / SDP on additive manufacturing and research methodology

Qualifications:-

Academics						
Level	Details	Grade/Div.	Institute University / Board	Year	Marks Secured (%)	Highlights
Doctorate	Ph.D. (Science and Technology) in Mechanical Engineering	-	University of Mumbai	Jun 2020	-	-
Post Graduation	M.E. (Mechanical with specialization in Manufacturing Systems Engineering)	First Class With Distinction	LokmanyaTilak College of Engineering, KoparKhairane (Mumbai University)	2012-2014	81%	9.41 (CGPI)
Graduation	B.E.(Mechanical Engineering)	First Class with Distinction	Sardar Patel College of Engineering, Andheri, Mumbai (Mumbai University)	2002-2006	75.88%	Distinction
12th Class	H.S.C.	First Class with Distinction	D.G. Ruparel College of Science, Commerce and Arts, Matunga, Mumbai	2002	87.67%	PCM : 94%
10th Class	S.S.C	First Class with Distinction	DnyaneshwarVidyalya, Wadala, Mumbai, Maharashtra Board	2000	92.26%	SSC Merit holder - 7th in Mumbai and 19th in Maharashtra state Merit list

Work Experience:- Industry (5 Years) + Teaching (8 Years)

Teaching			
Organization	Designation	Period	Experience
Fr. Conceicao Rodrigues College of Engineering, Bandra	Assistant Professor (Senior Scale)	May 2021 – Till Date	1 Year 9 Months
	Assistant Professor Regular (Fulltime)	May 2016 – Apr 2021	5 Year
-Fr. Conceicao Rodrigues College of Engineering, Bandra	Assistant Professor (Adhoc)	Jan 2015 – Apr 2016	1 year 3 Months
Lokmanya Tilak College Of Engineering, Navi Mumbai	Assistant Professor (Adhoc)	July 2013 – Dec 2014	1 year 5 months
Total Work Experience in Teaching			8 Years 2 Months

Industry				
Organization	Designation	Project Details	Period	Total Industry Experience
Tata Consultancy Services	I. T. Analyst	ABN AMRO Bank (Quality Assurance)	Apr 2011 – Jul 2011	5 Years 1 Month
		Canadian Imperial Bank of Commerce (M.I.S.)	Nov 2009 – Mar 2011	
		National Stock Exchange (Module Leader of trade Execution Team – Futures and Options Market)	Jun 2006 – Oct 2009	

List of Publications:-

Journal Publications:

- Joshi, K., & Patil, B.T. (2022). Automated inspection of spur gears using machine vision approach. *International Journal of Computational Vision and Robotics* (In press) (**Scopus Indexed**) DOI: <https://doi.org/10.1504/IJCVR.2022.10044716>
- Singh, Deepika S, Patil, B.T. and Joshi, K.N. (2021). Comparative Economic Analysis of Injection-Moulded Component with Conventional and Conformal Cooling Channels, *Journal of The Institution of Engineers (India): Series C*, 1-11. (**Scopus Indexed**) DOI: <https://doi.org/10.1007/s40032-021-00778-5>
- Deshmukh S, Patil B, Joshi K, Gaonkar C et. Al (2022), A Novel Method for IOT Based Smart Traffic System, *Industrial Engineering Journal*, Vol XV, Issue 6, June 2022, pp. 11-16 (**UGC Approved Journal as per UGC-Care List**)
- Joshi, K., & Patil, B.T. (2020). Performance evaluation of various texture analysis techniques for machine vision-based characterization of machined surfaces. *International Journal of Computational Vision and Robotics*, 10(3), 242-259. DOI: 10.1504/IJCVR.2020.107249 (**Scopus Indexed**)
- Joshi K. N., Patil B. T. (2020) Multivariate statistical process monitoring and control of machining process using principal components-based Hotelling T₂ charts: a machine vision approach, *International Journal of Productivity and Quality Management*, (**Scopus Indexed**) DOI: 10.1504/IJPQM.2020.10034309
- Joshi K. N., Patil B. T. (2019), Effect of Illumination Systems on Statistical Texture Parameters based Clustering and Discrimination of Machined Surfaces using Machine Vision, *Mapan, Journal of Metrology Society of India* pp 1-9 (by Springer Publications) DOI <https://doi.org/10.1007/s12647-018-0279-z> (**Scopus Indexed**)
- Joshi K. N., Patil B. T., A Review of Machine Vision based Evaluation of Surface Roughness using Texture Analysis Techniques, *Industrial Engineering Journal*, Nov 2018, pp 22-27 (**UGC Approved Journal as per UGC-Care List**)
- Joshi K. N., Patil B. T., (2016) Review of Industrial Metrology using Machine Vision, *International Journal of Emerging Technology and Advanced Engineering*, (ISSN 2250-2459, ISO 9001:2008 certified Journal, Volume 6, Issue 6, June 2016), pp 125-131
- Joshi, K. N., Patil, B. T., & Satao, M. S. (2014). "Optimization of Variation in Wall Thickness of a Deep Drawn Cup using Virtual Design of Experiments", *IRACST – Engineering Science and Technology: An International Journal (ESTIJ)*, ISSN: 2250-3498, Vol.4, No.5, pp 124-128

10. Joshi, K. N., Patil, B. T., & Satao, M. S. (2014), "Review of Optimization Aspects for Metal Forming Process", IRACST – Engineering Science and Technology: An International Journal (ESTIJ), Vol.4, No. 2, pp71-75

International Conferences:

1. Joshi, K.N. and Patil, B.T., (2020) Measurement of Spur Gear Parameters using Machine Vision, International Conference on Intelligent Manufacturing and Automation 2020 Organised by D J Sanghvi **Springer (Scopus Indexed) DOI:** https://doi.org/10.1007/978-981-15-4485-9_4
2. Dabreo P, Joshi, K.N., Patil, B.T., (2020) Machine vision based interferometry for measurement of latness error in micro and nano manufacturing, Second International Conference on Materials Science and Manufacturing Technology 2020 (ICMSMT 2020), Coimbatore Vol. 872. No. 1. IOP Publishing, 2020. 9-10 April 2020 **(Scopus Indexed) DOI :** [10.1088/1757-899X/872/1/012066](https://doi.org/10.1088/1757-899X/872/1/012066)
3. Joshi, K.N. and Patil, B.T., (2019). A Perspective of Integrated Machine Vision Based-Multivariate Statistical Process Control. In Proceedings of International Conference on Intelligent Manufacturing and Automation (pp. 463-471). Springer, Singapore. **(Scopus Indexed)**
4. Joshi K. N. and Patil B. T., (2019). Prediction of Surface Roughness by Machine Vision using Principal Components based Regression Analysis. In International Conference on Computational Intelligence and Data Science (ICCIDS 2019). Elsevier (Accepted) **(Scopus indexed)**
5. Joshi K.N., Patil B. T., (2019) Evaluation of Surface Roughness by Machine Vision using Neural Networks Approach, In International Conference on Recent Advances in Mechanical Infrastructure (ICRAM 2019), **(Publication as a book chapter in Springer Book Series)**
6. Joshi K. N., Patil B. T., (2018) Recent Developments in Quality Inspection of Spur Gears using Machine Vision Technology, In International Conference on Role of Industrial Engineering in Industry 4.0 Paradigm, organized by IIIE, Bhubaneswar in association with SOA, (ICIEIND– 2018)
7. Joshi K. N., Patil B. T., (2017) A Review of Machine Vision based Evaluation of Surface Roughness using Texture Analysis Techniques, In International Conference on Manufacturing and Industrial Engineering – 2017, Organized by Indian Institution of Industrial Engineering, (ICMIE-2017) (Further published in IE journal)
8. Rakesh A. Shinde, Dr. Bhushan T. Patil, Ketaki N. Joshi, "Optimization of Tube Hydroforming Process (without Axial Feed) by using FEA simulations", 3rd International Conference on Innovations in Automation and Mechatronics Engineering, ICIAME 2016, Procedia Technology published by Elsevier Ltd., 23 (2016) 398-405

National Conference:

9. Joshi K.N., Patil B. T., (2018) Machine Vision based Multivariate Statistical Process Monitoring: An Efficient Tool for Quality Control and Management, 3rd National Conference on Industrial Engineering and Technology Management, NCIETM 2018, NITIE
10. Joshi K. N., Patil B.T.(2013), "Review of Optimization Aspects for Metal Forming Process", AICTE Sponsored National Conference on "Challenges and Opportunities for Production and Industrial Engineering" organised by VJTI Matunga, Mumbai dated 16 January 2013

Book Chapter (Invited by Editor-in-Chief):

11. Joshi K. N., Patil B. T., Vaishnav H. B., Principal Components based Multivariate Statistical Process Monitoring of Machining Process using Machine Vision Approach, New Paradigm of Industry 4.0 – Internet of Things, Big Data & Cyber Physical Systems, Studies in Big Data (Springer Book Series) (Accepted for Publication)

Design Patents:

1. Article for Image Acquisition and Measurement of Surface and Dimensional Quality (Design Patent accepted and Published, Journal No: 29/2019 and Journal Date: 19/07/2019 Application Number: 296740 dated 18th August 2017)
2. Football Thrower (Design Patent Accepted and Published, Journal No: 03/2023 and Journal Date: 20/01/2023, Application Number: 375204-001 dated 7/12/2022)
3. Article for Printing 3D Parts using Electrochemical Deposition (Design Patent Accepted, Application Number: 374640-001 dated 25/11/2022)

Best Paper Awards:

- Joshi K. N., Patil B. T., (2018) Recent Developments in Quality Inspection of Spur Gears using Machine Vision Technology, International Conference on Role of Industrial Engineering in Industry 4.0 Paradigm, organized by IIIE, Bhubaneswar in association with SOA, (ICIEIND– 2018)
- Joshi K.N., Patil B. T., (2018) Machine Vision based Multivariate Statistical Process Monitoring: An Efficient Tool for Quality Control and Management, 3rd National Conference on Industrial Engineering and Technology Management, NCIETM 2018, NITIE

Participation in faculty development / training activities:-

1. 2-Days Faculty Development program on “**Simulation of Manufacturing Systems**”, 13th and 14th Mar 2015 organised by Department of Production Engineering, Fr. CRCE, Bandra
2. 2-Days Faculty Development program on “**Intellectual Property Rights**”, 5th and 6th Feb 2016 organised by Department of Production Engineering and Department of Information Technology, Fr. CRCE, Bandra
3. 1 Week STTP on "Emerging Application of SOLIDWORKS in Engineering R & D" organised by Bharati Vidyapeeth College of Engineering, Navi Mumbai on 17th to 21st April 2018
4. 1 Week STTP on "Emerging Application of SOLIDWORKS in Engineering R & D" organised by Bharati Vidyapeeth College of Engineering, Navi Mumbai on 17th to 21st April 2018
5. 1 Week STTP on " Research Methodology in Engineering & Technology " organised by Shri Bhagubhai Mafatlal Polytechnic, Vile Parle, Mumbai on 14th to 18th May 2018
6. 12 Weeks NPTEL Certification Course on Introduction to Machine Learning – Online, 28th April 2018 (71% Secured)
7. 12 Weeks NPTEL Certification Course on Product Design and Manufacturing - Online, 28th April 2019 (91% Secured)
8. One Week STTP on Novel Materials AICTE Training And Learning (ATAL) Academy by Pillai College of Engineering, 5-9 October 2020
9. One week Faculty Development Program on Moodle Learning Management System,

- Jointly organised by Spoken Tutorial Project, IIT Bombay and Shah & Anchor Kutchhi Engineering College Mumbai, 25 April 2020 to 30 April 2020
10. One week online faculty development program on R Jointly organised by Spoken Tutorial Project, IIT Bombay and Dr. G Y Patrikar College of Computer Science and Information Technology, 23 April 2020 to 28 April 2020
 11. One week online faculty development program on Latex, Jointly organised by Spoken Tutorial Project, IIT Bombay and A P Shah Institute of Technology, 7 April - 2 May 2020
 12. One week FDP on Innovation, Entrepreneurship and its Relevance in Industry 4.0 Practices in the Post Covid-19 Situation, Online FDP organised by Terna Engineering College, 25 May - 29 May 2020
 13. One week online FDP on Research , Funding Projects and IPR, online FDP organized by K C College of Engineering and Management, 7 May - 10 May 2020
 14. One Week STTP on Micro Electro Mechanical Systems AICTE Training And Learning (ATAL) Academy by Sardar Patel College of Engineering, 23 -27 November 2020
 15. Swayam NPTEL course on Product Design and Development (4 weeks), Sep Oct 2020
 16. Swayam NPTEL Course on Inspection and Quality Control in Manufacturing (4 weeks), Feb-March 2020
 17. Online Coursera courses in Innovation Through Design: Think, Make, Break, Repeat, May 2020
 18. Online Coursera courses in Digital Manufacturing and Design, May 2020
 19. Online Coursera course in Digital Thread: Components, May 2020
 20. 8 Week Swayam NPTEL Course on Design, Technology and Innovation, Aug-Oct 2021
 21. One week FDP on 3D Printing and Design organized by SPCE and ATAL, 20-24 Sep 2021
 22. AICTE Training and Academy One week Online Elementary FDP on "3D Printing and Design" organised by SPCE, 20-09-2021 to 24-09-2021
 23. ICSSR Sponsored 5 Days National Webinar on "Virtual Education - Interactive and Inclusive Aspects" by Pillai College of Engineering, 26-08-2021 to 30-08-2021
 24. One Week ISTE Approved STTP on "Design of Experiments for Research" organised by Shri Bhagubai Mafatlal Polytechnic, 26-07-2021 to 30-07-2021
 25. One week Online STTP on "Recent Trends in Online Energy Sources and Applications" organised by RGIT, 5-07-2021 to 10-07-2021
 26. Virtual Workshop on "IEEE R10 panel of Conference Organisers (POCO) 2021" organised by IEEE Bombay Section, 21 August 2021
 27. Expert Talk on "Reliability and Validity in Research and Technical Paper Writing organised by RGIT, 4-07-2021
 28. One Week ISTE Approved STTP on "Design of Experiments for Research" organised by Shri Bhagubai Mafatlal Polytechnic, 26-07-2021 to 30-07-2021

Membership in Professional Bodies:-

- Life member of Indian Institute of Industrial Engineering, Registration No: LM 10307(21), 2014, Present
- Lifetime Membership of ISTE (INDIAN SOCIETY FOR TECHNICAL EDUCATION), 2018, Present

Invited Lectures Resource person in Workshops / Training Programs or Chairmanship at Conference / Seminars:-

1. Seminar on "Research Methodology: From Problem Formulation to Report Writing" during ISTE-STTP organized by Prof. Ram Meghe Institute of Technology & Research, Amravati during 25 – 30 July 2022
2. Seminar on "Additive Manufacturing" during AICTE/ISTE Refresher course organized

- by Thakur Polytechnic, 30 Dec 2021
3. Seminar on Additive Manufacturing: A Technology Enabler of Industry 4.0, FDP on "Disruptive Technologies of Industry 4.0 organised by Fr. CRCE, Jun 2019
 4. Seminar on Additive Manufacturing, SDP on Advanced Technologies for Employability in Mechanical and Manufacturing Engineering, Organised by Fr. CRCE, Jun 2019
 5. Session chair of ICAC'3 2019 International Conference
 6. Session chair at Technical Paper Presentation in 62nd IIIE National Convention, Jan 2021
 7. Session Chair at Idea Competition 2021, Fr. CRCE, Jan 2021
 8. 1 Week training program on "Motion Analysis using Solidworks", Jan 2019
 9. 2-Days Faculty Development Program on "Multivariate Statistical Techniques used in Research" organised by Department on Production Engineering, Fr. CRCE, 9th and 10th March 2018

Subjects Taught at UG Level:-

- Kinematics of Machines
- Machine Design
- Design of Mechanical Systems
- Product Design and Industrial Marketing

Subjects Taught at PG Level:-

- Rapid Manufacturing
- Product Lifecycle Management

Subjects Taught at Ph.D. Level:

- Research Methodology