Curriculum vitae

Dr. Ketaki Narendra Joshi

Assistant Professor (Senior Scale)

(Department of Mechanical Engineering)
Fr. Conceicao Rodrigues College of Engg
Fr. Agnel Ashram, Bandstand, Bandra (W), Mumbai - 400050
ketaki.joshi@fragnel.edu.in

Brief Summary: -

Highest Qualification-Ph.D. (Science and Technology) in Mechanical Engineering
Total University Approved Teaching Experience- 9 Years
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 - 13, Book Chapter - 1
Approved PG Teacher by University of Mumbai from May 2021
Number of IPRs Design Patents- 5 Design Patents
STTPs/FDPs/Workshops Attended- 34
NITTT by AICTE All modules completed
Industrial Training – 2 trainings of 2 weeks each

Administrative Responsibilities Handled at Institute Level: -
- Incharge (Research and Development) in the A.Y. 2022-23, 2025-26
- Department Exam Coordinator A.Y. 2023-24 to 2025-26
- DQAC Member A.Y. 2024-25 and 2025-26
- 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

Qualifications:-

Academics						
Level	Details	Grade/Div.	Institute University / Board	Year	Marks Secured (%)	Highlights
Doctorate	Ph.D. (Scienceand 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	DnyaneshwarVidyalaya, 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 ofEngineering, Bandra	Assistant Professor (Senior Scale)	May 2021 – Till Date	**4 Years**
	Assistant Professor Regular (Fulltime)	May 2016 – Apr 2021	**5 Year**
-Fr. Conceicao Rodrigues Collegeof 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			**11 Years 8 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:

1. Joshi, K., & Patil, B.T. (2023). 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

2. Singh, Deepika S, Patil, B.T. and Joshi, K.N. (2022). 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

3. 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)**

4. 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)**

5. 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

6. 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)**

7. 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)**

8. 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

9. 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. Meera Kokate, Sonia M. Pol, Bhushan T. Patil, Ketaki N. Joshi, and Amit J. Lopes (2025). Prediction of Residual Stresses in Injection Moulded Helmet Visor using Computer Aided Engineering and Artificial Neural Network (ANN). International Conference on Materials Science and Manufacturing Technology (ICMSMT 2025)

2. Sonia M. Pol, Bhushan T. Patil, Ketaki Joshi, Amit Lopes (2024). Selection of Additive Manufacturing Technique by Using Multi Criteria Decision Making Methodology Viz. Analytical Hierarchy Process, Fifth International Conference on Advances in Physical Sciences and Materials (ICAPSM) held at Builders Engineering College, Kangeyam, Tamil Nadu, India During 29-30,August 2024

3. Hardik Karpe, Ketaki Joshi, Bhushan T. Patil (2024) A Comparative Analysis and Predictive Modelling of AA5754-O and AA6061-O in Single Action Sheet Metal Forming for Automotive Structural B-Pillar, Sixth International Conference on Materials Science and Manufacturing Technology (ICMSMT 2024) during 03 - 04, May 2024 at Akshaya College of Engineering and Technology, Coimbatore, Tamil Nadu, India.

4. 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

5. 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*

6. 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)**

7. 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)**

8. 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)**

9. 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)

10. 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)

11. 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:

12. 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

13. 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):

14. 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 and Published, Journal No: 04/2023 and Journal Date: 27/01/2023 Application Number: 374640-001 dated 25/11/2022)

4. Corner Set Punch for Springback Elimination in V Sheet Metal bending (Design Patent Accepted and Published, Journal No: 17/2023 and Journal Date: 28/04/2023, Application Number: 379051-001 dated 10/02/2023)

5. Nozzle for Turning Operation (Design Patent Accepted and Published, Journal No: 01/2024 and Journal Date: 05/01/2024, Application Number: 379302-001 dated 14/02/2023)

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. 5 Days Faculty Patent Development Program 31st July 2023 to 5th August 2023
2. One day workshop on Aavishkar Research Convention organized by UoM at Pillai College of Engineering, 24 August 2022
3. Innovation Ambassador Training (Foundation level) July 2022
4. Expert Talk on "Reliability and Validity in Research and Technical Paper Writing organised by RGIT, 4-07-2021
5. Virtual Workshop on "IEEE R10 panel of Conference Organisers (POCO) 2021" organised by IEEE Bombay Section, 21 August 2021
6. One week Online STTP on "Recent Trends in Online Energy Sources and Applications" organised by RGIT, 5-07-2021 to 10-07-2021
7. One Week ISTE Approved STTP on "Design of Experiments for Research" organised by Shri Bhagubai Mafatlal Polytechnic, 26-07-2021 to 30-07-2021
8. 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
9. One week FDP on 3D Printing and Design organized by SPCE and ATAL, 20-24 Sep 2021
10. 8 Week Swayam NPTEL Course on Design, Technology and Innovation, Aug-Oct 2021
11. Online Coursera courses in Innovation Through Design: Think, Make, Break, Repeat, May2020
12. Online Coursera courses in Digital Manufacturing and Design, May 2020
13. Online Coursera course in Digital Thread: Components, May 2020
14. Swayam NPTEL course on Product Design and Development (4 weeks), Sep Oct 2020
15. Swayam NPTEL Course on Inspection and Quality Control in Manufacturing (4 weeks), Feb-March 2020
16. 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
17. One week FDP on Innovation, Entrepreneurship and its Relevance in Industry 4.0 Practices inthePost Covid-19 Situation, Online FDP organised by Terna Engineering College, 25 May - 29 May2020
18. 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
19. 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
20. 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
21. One Week STTP on Micor Electro Mechanical Systems AICTE Training And Learning (ATAL) Academy by Sardar Patel College of Engineering 23-27 Nov 2020
22. One Week STTP on Novel Materials AICTE Training And Learning (ATAL) Academy by Pillai College of Engineering, 5-9 October 2020
23. IIC Sessions IIC of MHRD's innovation Cell, New Delhi on Innovation, IPR, Entrepreneurship and Startup, 28 April to 22 May 2020
24. One week SDP on "Advanced Technologies for Employability in Mechanical and Manufacturing Engg., organized by department of Mechanical and Production Engineering, Fr. CRCE, 12 to 16 June 2020
25. 12 Weeks NPTEL Certification Course on Product Design and Manufacturing - Online, 28th April 2019 (91% Secured)
26. 12 Weeks NPTEL Certification Course on Introduction to Machine Learning – Online,28th April 2018 (71% Secured)

27. One Week STTP on " Research Methodology in Engineering & Technology " organised by Shri Bhagubhai Mafatlal Polytechnic, Vile Parle, Mumbai on 14th to 18th May 2018
28. Two-days Faculty Development Program on Machine Learning organized by Department of Computer Engineering and Information Technology, 28 Feb and 22 22 Mar 2019
29. Avishkar Research Convention Workshop 2017-18 organised by UoM at Lokmanya Tilak College of Engineering, 9 Nov 2017
30. 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
31. 2-Days Faculty Development program on "Hands-on Training on Mechatronic Systems", 19th and 20th Aug 2016 organised by Department of Production Engineering, Fr. CRCE, Bandra
32. Faculty Development Program on Design and Development using Fusion 360 organised by Milestone PLM Solution, 30 Nov 2016
33. 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
34. 2-Days Faculty Development program on "Simulation of Manufacturing Systems", 13th and14th Mar 2015 organised by Department of Production Engineering, Fr. CRCE,Bandra

National Initiative for Technical Teachers Training (NITTT) by AICTE
1. Module 1: Orientation Towards Technical Education and Curriculum Aspects 16-September-2023
2. Module 2 Professional Ethics & Sustainability 16-September-2023
3. Module 3 Communication Skills, Modes & Knowledge Dissemination 17-September-2023
4. Module 4 Instructional Planning and Delivery 17-September-2023
5. Module 5 Technology Enabled Learning and Life-Long Self Learning 28-September-2024
6. Module 6 Student Assessment and Evaluation 21-September-2023
7. Module 7 Creative Problem Solving, Innovation and Meaningful R & D 22-September-2023
8. Module 8 Institutional Management & Administrative Procedures 22-September-2023

Industrial Training:

Two weeks industrial training in Firetech Equipment & Systems Pvt. Ltd (A.Y. 2021-22)
Two weeks industrial training in ECube Concrete Consultants Pvt Ltd (A.Y. 2024-25)

Membership in Professional Bodies:-

- Life member of Indian Institute of Industrial Engineering, Registration No: LM10307(21), 2014, Present
- Lifetime Membership of ISTE,2018, Present

Invited Lectures Resource person in Workshops / Training Programs or Cchairmanship at Conference / Seminars/ Judging in College Events:-

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 2020

4. Seminar on Additive Manufacturing, SDP on Advanced Technologies for Employability in Mechanical and Manufacturing Engineering, Organised by Fr. CRCE,Jun 2020
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 2018
9. 2-Days Faculty Development Program on "Multivariate Statistical Techniques used in Research" organised by Department on Production Engineering, Fr. CRCE, 9thand 10thMarch 2018
10. 2-Days national Level FDP on Hands-On Training on Computational Fluid Dynamics using Simulations 3rd and 4th Feb 2017, Fr. CRCE
11. Judge of Technical Debate during Technomania 2017 organized by IEEE CRCE, 17 March 2017

Subjects Taught at UG Level:-
- Mechanics of Solids
- Kinematics of Machines
- Dynamics of Machinery
- Machine Design
- Design of Mechanical Systems
- Product Design and Development

Subjects Taught at PG Level:-
- Rapid Manufacturing

Subjects Taught at Ph.D. Level:
- Research Methodology