CHETAN JALENDRA

Phone: 8949331896
jalendrachetan@gmail.com
p2016420@pilani.bits-pilani.ac.in
Ward No. 15, Chirawa
Dist. Jhunjhunu, Rajasthan
Pin - 333026

OBJECTIVE

A creative researcher professional with excellent oral and written communication and technical skill, adept at operating in a multi-functional and collaborative work environment.

EDUCATION

PhD	BITS (Pilani), Mechanical Engineering Title: "Design and development of vibration suppression strategies for industrial robot manipulators used in assembly operations with gripper and object flexibilities" (Pursuing) CGPA – 8.07	July 2022 (Expected)
BTech	Shridhar University, Mechanical Engineering, CGPA 7.81	May 2014
Sn. Secondary	Lohia Public Sn. Sec. School, Chirawa, RBSE, 76.5%	2010
Secondary	MRS Shri Krishna Pranami Public School, Chirawa, RBSE, 78.5%	2008

HONORS AND AWARDS

CSIR Senior Research Fellowship 2019-2022
CSIR Junior Research Fellowship 2017-2019
103rd all India rank in Joint UGC-CSIR NET-JRF exam (June 2015)

AREA OF RESEARCH INTEREST

- Design of Robot Manipulators
- Robotic Assembly
- Computer vision
- Mechanical Vibration
- Control

RESEARCH EXPERIENCE

Birla Institute of Technology and Science, Pilani Jan 2017-Present
Research Fellow, Centre for Robotics and Intelligent Systems

- Designed and developed a robot vision method for measurement of object dimension in 3D space using 2D space information.
- Analysed flexible object vibration using robot vision and FEM methods.
- Effectively designed and developed the vibration suppression strategies for rigid objects with gripper flexibility and flexible object in robotic assembly.
- Designed and researched the architecture of the vibration control system collaborating simultaneously with the robot's internal controller.
- Reviewed advancements and application of artificial intelligence in vision-based robotic assembly.
- Developed Controller programs using MATLAB/Simulink and Python.
- Worked with ABB robot, Robotstudio Rapid programming online and offline, and Simens PLC programming.

TEACHING EXPERIENCE

Birla Institute of Technology and Science, Pilani Jan 2017 – Present
Worked as Teaching Assistant, for the Department of Mechanical Engineering and
Handled the following courses offered to UG and PG students

- Robotics and Mechanism, Workshop, Engineering Graphics, Production Technique, Strength of Material
- Developed Quizzes, Corrected the Quiz copies, and Conducted viva
- Coordinated Lab Experiments with a team of 4 teaching assistants
- Evaluated the copies of the Mechatronics and Autotronics course offered to M. Tech., in Design and Automotive Electronics program

Shridhar University, Pilani Sept 2016 to Dec 2016
Assistant professor, Mechanical Department

- Material science, Theory of Machines, Automobile Engineering
- Developed quizzes, exams, and homework
- Revised the syllabus to meet accreditation standards
- Coordinated labs with a team of 2 teaching assistants

PUBLICATIONS

Journal Paper

1. Jalendra, C., Rout, B.K. and Marathe, A. (2022), "Vision sensor based residual vibration suppression strategy of non-deformable object for robot-assisted assembly operation with gripper flexibility", *Industrial Robot*, https://doi.org/10.1108/IR-09-2021-0197 (SCIE Indexed)

2. Jalendra, C., Rout, B.K. and Marathe, A. (2022), "Robot-vision based control strategy to suppress residual vibration for robot-assisted assembly with a flexible beam", *Industrial Robot* (Communicated)
3. Jalendra, C., Rout, B.K. and Marathe, A. (2022), "Vision Sensor Based Residual Vibration Suppression Strategy of Non-Deformable Object for Robot Assisted Assembly Operation", *Int. J. of Computational Vision and Robotics* (Communicated)
4. Jalendra, C., Rout, B.K. and Marathe, A. (2022), "Robot-vision based control strategy to suppress residual vibration of a flexible beam for robot-assisted assembly using robot wrist motion", *Robotics and Computer-Integrated* System (Communicated)

Conference Papers

1. Chetan Jalendra, B.K. Rout, "Vibration Suppression of Non-Deformable Metal Strip for Robot Assisted Assembly Operation." In *2020 International Conference on Emerging Trends in Communication, Control and Computing (ICONC3)*, IEEE, 2122 Feb 2020. (Peer reviewed)
2. Chetan Jalendra, B.K. Rout, A.M. Marathe, "Residual Vibration Suppression of Non Deformable Object for Robot Assisted Assembly Operation Using Vision Sensor", In Congress on Intelligent Systems, 5-6 Sept 2020. (Peer reviewed)

PROFESSIONAL TRAINING

Courses pursued

Robotics, Mechatronics, FEM, Nonlinear vibrations, MEMS, Study in advance topic, PhD thesis and PhD seminar.

Seminar or Workshop

College of Engineering and Technology, Bhubaneswar, Online, 21-25 Sept 2020

Description: A faculty development program on "Recent Trends and Advances in Robotics and Automation", through video conference mode.

LANGUAGES

English: Intermediate Listener, Intermediate Speaker, Advanced Reading, and Writing
Hindi: Native Language

COMPUTER SKILLS

Programming: Python, Matlab/Simulink, Rapid robot programming.
Applications: Windows OS, Ubuntu OS, MS office, ABB RobotStudio, Pro-e, AutoCad.

REFRENCES

1.	Dr. B.K. Rout Professor, Department of mechanical engineering, Birla Institute of Technology and Sciences, Pilani campus, Pilani Email. – rout@pilani.bits-pilani.ac.in
2.	Dr. Amol M. Marathe, Assistant Professor, Mechanical Engineering Department Birla Institute of Technology and Science, Pilani, Rajasthan, India Email: amolmm@pilani.bits-pilani.ac.in
3.	Dr. K.K. Gupta Professor, Department of mechanical engineering, Birla Institute of Technology and Sciences, Pilani campus, Pilani Email: kgupta@pilani.bits-pilani.ac.in; guptakarunesh@gmail.com