

CURRICULUM VITAE

Dr. Sushil Kumar Sahoo

Guest Faculty, Department of Mechanical Engineering
Indira Gandhi Institute of Technology (IGIT), Sarang
Dhenkanal, Odisha, India



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CAREER OBJECTIVE

Dedicated researcher and academician with extensive experience in Mechanical Engineering, Artificial Intelligence applications, Robotics, Prosthetic Limb Design, Multi-Criteria Decision-Making (MCDM), Optimization Techniques, and Research Methodology. Passionate about conducting impactful research, publishing high-quality scholarly work, and contributing to technological innovation and academic excellence.

RESEARCH INTERESTS

- Artificial Intelligence
- Robotic Prosthetic Limbs
- Intelligent Assistive Devices
- Multi-Criteria Decision-Making (MCDM)
- Optimization Techniques
- Sustainable Engineering
- Sensor Technologies
- Human–Machine Interaction

EDUCATIONAL QUALIFICATIONS

Ph.D. (Mechanical Engineering)	1. Indira Gandhi Institute of Technology, Sarang, Odisha 2. Biju Patnaik University of Technology Rourkela Odisha
M.Tech. (Mechanical Engineering)	1. College of Engineering and Technology, Bhubaneswar, Odisha 2. Biju Patnaik University of Technology Rourkela Odisha
B.Tech. (Mechanical Engineering)	1. Veer Surendra Sai University of Technology, Burla, Odisha, Odisha

RESEARCH EXPERIENCE

Research Scholar

Department of Mechanical Engineering
IGIT Sarang, Odisha

- Conducting advanced research in Robotic Wheelchair design.
- Development of intelligent prosthetic systems using AI techniques.
- Application of MCDM methods for engineering decision-making.
- Design optimization using computational techniques.
- Experimental and simulation-based analysis of robotic systems.

Research Experience: More than 8 Years

PUBLICATIONS

1. A Comprehensive Review of Multiple Criteria Decision-Making (MCDM) Methods: Advancements, Applications, and Future Directions
2. Theoretical Framework for Assessing the Economic and Environmental Impact of Water Pollution: A Detailed Study on Sustainable Development of India
3. Cloud Computing in Supply Chain Management: Exploring the Relationship
4. Cloud Computing for Sustainable Development: An Analysis of Environmental, Economic and Social Benefits
5. Supplier Selection in the Age of Industry 4.0: A Review on MCDM Applications and Trends
6. A Bibliometric Analysis of Material Selection Using MCDM Methods: Trends and Insights
7. Artificial Intelligence-Enabled Supply Chain Management: Unlocking New Opportunities and Challenges
8. A Review of Digital Transformation and Industry 4.0 in Supply Chain Management for Small and Medium-Sized Enterprises
9. A Review of Multi-Criteria Decision-Making (MCDM) Applications to Solve Energy Management Problems from 2010–2025: Current State and Future Research
10. Green Supplier Selection Using MCDM: A Comprehensive Review of Recent Studies
11. Wheelchair Accessibility: Bridging the Gap to Equality and Inclusion
12. A Comprehensive Review of Multi-Criteria Decision-Making (MCDM) toward Sustainable Renewable Energy Development
13. Assessing the Role of Sustainable Development in Mitigating the Issue of Global Warming
14. A Review of Methodologies for Path Planning and Optimization of Mobile Robots
15. Exploring the Role of Robotics in Maritime Technology: Innovations, Challenges, and Future Prospects
16. Challenges and Opportunities for Enhanced Patient Care with Mobile Robots in Healthcare
17. Voice-Activated Wheelchair: An Affordable Solution for Individuals with Physical Disabilities
18. Optimal Selection of an Electric Power Wheelchair Using an Integrated COPRAS and EDAS Approach Based on Entropy Weighting Technique

19. Exploring the Use of Computer Vision in Assistive Technologies for Individuals with Disabilities: A Review
20. A Bibliometric Analysis of Agro-Based Industries: Trends and Challenges in Supply Chain Management
21. Promoting Inclusivity in Education Amid the Post-COVID-19 Challenges: An Interval-Valued Fuzzy Model for Pedagogy Method Selection
22. Autonomous Navigation and Obstacle Avoidance in Smart Robotic Wheelchairs
23. AI Advances in Wheelchair Navigation and Control: A Comprehensive Review
24. A Review on Smart Robotic Wheelchairs with Advancing Mobility and Independence for Individuals with Disabilities
25. A Fuzzy AHP Approach to Evaluate the Strategic Design Criteria of a Smart Robotic Powered Wheelchair Prototype
26. Evaluating Material Alternatives for Low-Cost Robotic Wheelchair Chassis: A Combined CRITIC, EDAS, and COPRAS Framework
27. A Review on Human-Robot Interaction and User Experience in Smart Robotic Wheelchairs
28. Investigating the Causes and Remedies for Porosity Defects in the Casting Process: A Review
29. Evaluating Motor Choices for a Smart Wheelchair Prototype Using an Integrated TODIM-CoCoSo Approach with MEREC Weighting
30. Design and Implementation of Advanced Sensor Systems for Smart Robotic Wheelchairs: A Review
31. A Comprehensive Review of Fuzzy Multiple Criteria Decision-Making (MCDM) Methods: Advancements, Applications, and Future Directions
32. An Integrated MCDM Framework for Optimizing Rotary Actuator Selection in Smart Robotic Power Wheelchair Prototypes
33. Design of a Robotic Vehicle to Avoid Obstacle Using Arduino Microcontroller and Ultrasonic Sensor
34. Synergistic Effects of Lean Manufacturing and Digitalization on Operational Effectiveness: A Comprehensive Review
35. Evaluating Green Economy Strategies Through Multi-Criteria Decision Analysis: A Systematic Review
36. AI-Powered Threats and Solutions: A Theoretical Analysis of Risks, Governance, and Ethical Safeguards
37. Revolutionizing Healthcare Industry 5.0: Exploring the Potential of Blockchain Technology for Medical Applications
38. Transforming Decision-Making in Generation Z Education: A Systematic and Bibliometric Review of Artificial Intelligence
39. A Comprehensive Review on Climbing Robots: Mechanisms, Adhesion Techniques, and Applications
40. Financial Literacy and Retirement Planning: A Global Bibliometric Analysis of Research Trends and Influential Contributions
41. Mapping Tools, Techniques, and Applications for Research Excellence: A Bibliometric Study
42. Optimizing Robotic Prosthetic Palm Design through Integration of LOPCOW, COBRA, and EDAS for Efficient 3D Printing Material Selection
43. A Comprehensive Review on Advances in Sensor Technologies for Prosthetic Palms
44. Evaluation of Motorized Wheelchairs Using an Integrated ARAS-TOPSIS and CRITIC Approach

45. Large Language Models in Multi Criteria Decision Making: A Systematic Review, Taxonomy, and Future Research Agenda
46. Artificial Intelligence Driven Sustainable Consumption Decisions of Generation Z: A Systematic Literature Review
47. Emerging Trends in Nanorobotics for Environmental Remediation: A Bibliometric Review

REVIEWER ACTIVITIES

Served as reviewer for scholarly journals and international conferences in areas including:

- Mechanical Engineering
- Artificial Intelligence
- Decision Sciences
- Optimization Techniques
- Robotics and Automation

TECHNICAL SKILLS

<u>Software</u>	<u>Research Tools</u>	<u>EXPERTISE IN MCDM METHODS</u>
• MATLAB • ANSYS • SolidWorks • AutoCAD • CATIA • MS Office • SPSS • R Programming	• VOSviewer • Biblioshiny • Dimensions AI • Scopus • Web of Science	• TOPSIS • ARAS • COPRAS • EDAS • MOOSRA • WASPAS • WSM • WPM • TODIM • CoCoSo • PROMETHEE • AHP • Fuzzy AHP • CRITIC • Entropy • MEREC • LOPCOW • COBRA

ACHIEVEMENTS

- Published research articles in national and international journals.
- Developed novel MCDM frameworks for engineering applications.
- Contributed to robotic prosthetic limb research.
- Conducted bibliometric and systematic literature review studies.
- Recognized for scholarly contributions in Mechanical Engineering and Decision Sciences.

SCIENTIFIC EVENTS ATTENDED

- International Conferences on Mechanical Engineering.
- Workshops on Artificial Intelligence and Robotics.
- Research Methodology Workshops.
- Faculty Development Programs (FDPs).
- Webinars on Emerging Engineering Technologies.
- Academic Seminars and Research Training Programs.

ACADEMIC ACTIVITIES

- Research Paper Writing and Mentoring.
- Literature Review and Bibliometric Analysis.
- Research Methodology Training.
- Academic Content Creation.

DIGITAL ACADEMIC CONTRIBUTION

YouTube Channel: My Research FFriend

- Created and published 300+ educational videos.
- Research methodology tutorials.
- Journal publication guidance.
- Literature review and bibliometric analysis tutorials.
- Academic writing support for researchers and students.

DECLARATION

I hereby declare that all information provided in this Curriculum Vitae is true and correct to the best of my knowledge and belief.

Date: 19/06/2026

Place: IGIT, Sarang



Sushil Kumar Sahoo