

## Curriculum Vitae

### Personal Details

Name	Dr Esha Saha
Designation	Assistant Professor
Department	Department of Management Studies & Industrial Engineering Indian Institute of Technology (Indian School of Mines) Dhanbad
Mobile number	9051525570
Personal E-mail id	<a href="mailto:eshasaha83@gmail.com">eshasaha83@gmail.com</a> ; <a href="mailto:eshasaha@iitism.ac.in">eshasaha@iitism.ac.in</a>



### Educational Qualifications

Qualification	University/ Institute/ Board	Percentage / Grade point	Specialization	Year of completion
PhD	IIT Kharagpur	8.5/10	Industrial and Systems Engineering <b>Thesis Title:</b> Modelling and Analysis of Healthcare Inventory Management Systems	2020
Master of Technology (MTech)	NIT Calicut	8.73 or 87.3%	Industrial Engineering and Management	2014
Bachelor of Technology (BTech)	West Bengal University of Technology/Calcutta Institute of Engineering and Management	8.93 or 81.8%	Instrumentation and Control Engineering	2012
XIIth	Mahadevi Birla Girls' Higher Secondary School/CBSE Board/ All India Senior School Certificate Examination	86.4% or 432/500	Physics, Chemistry, Biology, Maths, English, Hindi	2008
Xth	Mahadevi Birla Girls' Higher Secondary School/CBSE Board/All India Secondary School Examination	87.2% or 436/500	Science, Social Science, Math, English, Hindi	2006

### Work Experience - Academics

Position held	Period (From –To)	Name of organization	Nature of Job
Assistant Professor	September 16, 2019 - September 30, 2020	Rajagiri Business School, Kochi, Kerala, India	Teaching and Research
Assistant Professor	October 5, 2020 – September 30, 2022	Institute of Management Technology Hyderabad, India	Teaching and Research

Assistant Professor	October 31, 2022 – January 17, 2024	Paari School of Business, SRM University, Amaravati, Andhra Pradesh, India	Teaching and Research
Assistant Professor, Gr-I	January 22, 2024 - present	Department of Management Studies and Industrial Engineering, Indian Institute of Technology (Indian School of Mines) Dhanbad, India	Teaching and Research

**Teaching Interests:** Operations Management, Operations Research, Logistics and Supply Chain Management, Management Science, Research Methodology, New Product Development, Supplier Relationship Management, Materials Management, Prescriptive Analytics, DBMS, DBMS lab, Business analytics lab, and IoT & Blockchain for business.

**Research Interests:** Healthcare Management Systems, Operations and Supply Chain Management, Inventory Management, Stochastic Processes, Healthcare Analytics, IoT & Blockchain, Industry 4.0 and Digital Transformation.

#### Research & Publications

##### *Research Projects:*

<i>SL. No.</i>	<i>Title of the Project</i>	<i>Role</i>	<i>Funding Agency</i>	<i>Budget</i>	<i>Status</i>
1.	Future-Ready Hospitals: Strategic Adoption of Industry 4.0 Technologies in Eastern and North-Eastern India	PI	ICSSR	Rs 96 lakhs	Ongoing
2.	Investigating the barriers, facilitators, and strategies to the adoption of Internet-of-things and blockchain technology in the Indian healthcare systems: An empirical analysis.	PI	FRS, IIT (ISM) Dhanbad	Rs 10 lakhs	Ongoing
3.	Implementing PM Surya Ghar: Muft Bijli Yojna in Tribal Areas of Jharkhand: Investigating the Drivers and Barriers of Solar Rooftop Adoption'	Co-PI	ICSSR	Rs 25 lakhs	Ongoing

##### *Published Papers in International and National Journals:*

<i>SL. No.</i>	<i>Title of Journal Paper</i>	<i>Name of Journal</i>	<i>Journal Indexing</i>	<i>Author</i>	<i>Vol, Year</i>	<i>Reference</i>
1.	A smart inventory management system with medication demand dependencies in a hospital supply chain: A	Computers & Industrial Engineering [I.F. 7.9]	ABDC – A, WoS Q1, Scopus Q1, SCI	Esha Saha and Pradeep Rathore	Vol. 191, 110165, 2024	<a href="https://doi.org/10.1016/j.cie.2024.110165">doi.org/10.1016/j.cie.2024.110165</a>

	multi-agent reinforcement learning approach					
2.	Understanding students' switching intentions from cash payment to mobile payment in education sector	Journal of Applied Research in Higher Education [I.F. 1.7]	Scopus Q2, ESCI	Pragha P, Krantiraditya Dhalmahapatra Pradeep Rathore, Esha Saha, Murali Sambasivan	2024	<a href="https://doi.org/10.1108/JARH-E-11-2023-0522">doi.org/10.1108/JARH-E-11-2023-0522</a>
3.	The Impact of Healthcare 4.0 Technologies on Healthcare Supply Chain Performance: Extending the Organizational Information Processing Theory	Technological Forecasting & Social Change [I.F. 12]	ABDC – A, WoS Q1, Scopus Q1, SSCI, ABS 3	Esha Saha, Pradeep Rathore	Vol. 201, 2024, 123256	<a href="https://doi.org/10.1016/j.techfore.2024.123256">doi.org/10.1016/j.techfore.2024.123256</a>
4.	Impact of branding on customer purchase decision in apparel industry: An application of stimulus-organism-response theory	Vision: The Journal of Business Perspective [I.F. 2.8]	ABDC - C, Scopus Q2, ESCI	Pradeep Rathore, Esha Saha, Krantiraditya Dhalmahapatra, Murali Sambasivan	2024	<a href="https://doi.org/10.1177/09722629231225541">doi.org/10.1177/09722629231225541</a>
5.	Discovering Hidden Patterns among Medicines Prescribed to Patients using Association Rule Mining Technique	International Journal of Healthcare Management [I.F. 2.5]	ABDC - C, Scopus Q1, ESCI	Esha Saha, Pradeep Rathore	16(2), 277-286, 2023	<a href="https://doi.org/10.1080/20479700.2022.2099335">doi.org/10.1080/20479700.2022.2099335</a>
6.	The interplay of emerging technologies in pharmaceutical supply chain performance: An empirical investigation for the rise of Pharma 4.0	Technological Forecasting & Social Change [I.F. 12]	ABDC – A, WoS Q1 Scopus Q1, SSCI, ABS 3	Esha Saha, Pradeep Rathore, Ratri Parida, N. Rana	181, 121768, August, 2022	<a href="https://doi.org/10.1016/j.techfore.2022.121768">doi.org/10.1016/j.techfore.2022.121768</a>
7.	Case Mix-based Resource Allocation under Uncertainty in Hospitals: Physicians being the Scarce Resource	Computers and Industrial Engineering [I.F. 7.9]	ABDC - A, WoS Q1, Scopus Q1, SCI, ABS 2	Esha Saha, Pradeep Rathore	174, 108767, Dec 2022	<a href="https://doi.org/10.1016/j.cie.2022.108767">https://doi.org/10.1016/j.cie.2022.108767</a>
8.	Assessing impact of consumer perceived CSR on consumer attitude and purchase behaviour in retail	Society and Business Review [I.F. 1.58]	ABDC - B, ABS 2, Scopus-Q3, ESCI	Pradeep Rathore, Esha Saha, Sayan Chakraborty,	18(2), 264-295, August 2022	<a href="https://doi.org/10.1108/SBR-10-2021-0207">https://doi.org/10.1108/SBR-10-2021-0207</a>

	segment: A stakeholder theory perspective			Aviral Kumar Tiwari		
9.	Modelling and Analysis of Inventory Management Systems in Healthcare: A Review and Reflections	Computers and Industrial Engineering [I.F. 7.9]	ABDC – A, WoS Q1, Scopus Q1, SCI, ABS 2	Esha Saha, Pradip Kumar Ray	137, 106051, Nov 2019	<a href="https://doi.org/10.1016/j.cie.2019.106051">doi.org/10.1016/j.cie.2019.106051</a>
10.	Modelling and Analysis of Healthcare Inventory Management Systems	OPSEARCH [I.F. 2.1]	ABS 1, ABDC – C, Scopus Q2, ESCI	Esha Saha, Pradip Kumar Ray	56(4), 1179-1198, Sept 2019	<a href="https://doi.org/10.1007/s12597-019-00415-x">doi.org/10.1007/s12597-019-00415-x</a>
11.	Patient Condition-based Medicine Inventory Management in Healthcare Systems	IISE Transactions on Healthcare Systems Engineering [I.F. 1.41]	Scopus Q2	Esha Saha, Pradip Kumar Ray	9(3), 299-312, July, 2019	<a href="https://doi.org/10.1080/24725579.2019.1638850">doi.org/10.1080/24725579.2019.1638850</a>
12.	Status Survey of Occupational Risk Factors of Manual Material Handling Tasks at a Construction Site in India	Procedia Manufacturing	Scopus	Pradip Kumar Ray, Ratri Parida, Esha Saha	3, 6579 – 6586, 2015	<a href="https://doi.org/10.1016/j.promfg.2015.07.279">doi.org/10.1016/j.promfg.2015.07.279</a>

***Published Chapters in Books:***

SL. No.	Title of Book Chapter	Name of Book	Publisher	Author	Page, Year	Reference
1.	E-procurement: An emerging tool for the pharmaceutical supply chain management	Applications of Emerging Technologies and AI/ML Algorithms. ICDAPS 2022. Asset Analytics	Springer	Esha Saha, Pradeep Rathore and Bhargav Anne	121-127, 2023	<a href="https://doi.org/10.1007/978-981-99-1019-9_12">https://doi.org/10.1007/978-981-99-1019-9_12</a>
2.	Utilizing Blockchain Technology to Manage Functional Areas in Healthcare Systems	Big Data-Driven Digital Economy: Artificial and Computational Intelligence	Springer	Esha Saha, Pradeep Rathore and Ashna Gigi	125-139, 2021	<a href="https://doi.org/10.1007/978-3-030-73057-4_11">https://doi.org/10.1007/978-3-030-73057-4_11</a>
3.	Statistical Analysis of Medical Data for Inventory Management in a Healthcare System	Analytics, Operations, and Strategic Decision Making in the Public Sector	IGI Global	Esha Saha, Pradip Kumar Ray	166-186, 2019	<a href="https://doi.org/10.4018/978-1-5225-7591-7.ch008">10.4018/978-1-5225-7591-7.ch008</a>

4.	Inventory Management and Analysis of Pharmaceuticals in a Healthcare System	Healthcare Systems Management: Methodologies and Applications: 21st Century Perspectives of Asia	Springer	Esha Saha, Pradip Kumar Ray	71-98, 2018	<a href="https://doi.org/10.1007/978-981-10-5631-4_7">10.1007/978-981-10-5631-4_7</a>
5.	Modeling and Analysis of Distribution of Blood Stocks to Healthcare Units	Healthcare Systems Management: Methodologies and Applications: 21st Century Perspectives of Asia	Springer	Pratiksha Patel, Pradip Kumar Ray, Esha Saha	115-132, 2018	<a href="https://doi.org/10.1007/978-981-10-5631-4_9">https://doi.org/10.1007/978-981-10-5631-4_9</a>
6.	Ergonomic Performance and Evaluation of Worksystem: A Few Applications	Ergonomic Design of Products and Worksystems- 21st Century Perspectives of Asia	Springer	Pradip Kumar Ray, V K Tewari and Esha Saha	1-12, 2018	<a href="https://doi.org/10.1007/978-981-10-5457-0_1">https://doi.org/10.1007/978-981-10-5457-0_1</a>
7.	An Overview of Impact of Healthcare Inventory Management Systems on Entrepreneurship	Entrepreneurship in Technology for ASEAN	Springer	Esha Saha, Pradip Kumar Ray	83-94, 2017	<a href="https://doi.org/10.1007/978-981-10-2281-4_7">https://doi.org/10.1007/978-981-10-2281-4_7</a>
8.	Ergonomic Performance Measurement and Evaluation for Worksystems in Healthcare	Advances in Human Factors and Ergonomics in Healthcare	Springer	Pradip Kumar Ray, Esha Saha	329-342, 2017	<a href="https://doi.org/10.1007/978-3-319-41652-6_31">https://doi.org/10.1007/978-3-319-41652-6_31</a>
9.	Biomechanical Evaluation of patient Handling Jobs in Healthcare: A Case Study in India	Advances in Human Factors and Ergonomics in Healthcare	Springer	Dharmendra Sharma, Pradip Kumar, Esha Saha	67-74, 2017	<a href="https://doi.org/10.1007/978-3-319-41652-6_7">https://doi.org/10.1007/978-3-319-41652-6_7</a>

***Conference Papers Presented:***

SL. No.	Title of Conference Paper	Name of Conference	Organizer and Venue	Authors	Date
1.	E-procurement: An emerging tool for the pharmaceutical supply chain management	International Conference on Data Analytics in Public Procurement	AJNIFM and NITIE	Esha Saha, Pradeep Rathore and Bhargav Anne	June 10-11, 2022 (Published)

		and Supply Chain			
2.	Impact of Physicians' Prescribing Behaviour on Hospital Inventory Management Systems	Seventeenth AIMS International Conference on Management	IIM Kozhikode	Esha Saha	January 2-4, 2020 (Published)
3.	Modelling and Analysis of Healthcare Inventory Management Systems	International Conference on Advancing Frontiers in Operational Research: Towards a Sustainable World	Operational Research Society of India (ORSI) and Heritage Institute of Technology, Kolkata	Esha Saha, Pradip Kumar Ray	December 21-23, 2017
4.	Inventory Management and Analysis of Pharmaceuticals in a Healthcare System	International Conference on Managing Ergonomic Design, Industrial Safety and Healthcare Systems	Indian Institute of Technology Kharagpur	Esha Saha, Pradip Kumar Ray	December 20-23, 2016
5.	Modelling Patient Medical Condition-based Demand for Managing Hospital Inventory	2nd IIMA International Conference on Advances in Healthcare Management Services	Indian Institute of Management Ahmedabad, India	Esha Saha, Pradip Kumar Ray	December 10-11, 2016
6.	Statistical Analysis of Medical Data for Inventory Management in a Healthcare System	34th Annual Meeting of the Indian Society of Medical Statistics	Indian Statistical Institute, Kolkata	Esha Saha, Pradip Kumar Ray	December, 1-3, 2016
7.	Biomechanical Evaluation of Patient Handling Jobs in Healthcare; A Case Study in India	International Conference on Applied Human Factors and Ergonomics	AHFE-2016	Dharmendra Sharma, Pradip Kumar, Esha Saha	Orlando, Florida, USA, July 27-31, 2016
8.	Development and Analysis of Discrete Particle Swarm Optimization algorithm to solve the transportation problem of cross-docking	International Conference on Advances in Engineering, Technology and Science	ICAET-2014	Esha Saha, R Sridharan	Munnar, Kerela, April 26 – 27, 2014

9.	Hybridization of Particle Swarm Optimization and Ant colony optimization technique to solve the distribution planning problem of cross-docking network	International Conference on Computational Intelligence and Advanced Manufacturing Research	Vels University, Chennai	Esha Saha, R Sridharan	Vels University, Chennai May 2-3, 2014
10.	Ant colony optimization technique to solve distribution planning problem of the cross-docking network	National Conference on Latest Trends In Mechanical Engineering	NSS college of Engineering	Esha Saha, R Sridharan	NSS college of Engineering, Palakkad, Kerela, March 25-27, 2014
11.	Smart sensor networks: Technologies and Applications for Green Growth	International Conference on Convergence of Optics and Electronics	JIS College of Engineering and University of Calcutta	Esha Saha, Anindya Ghosh, Dorathy Dey, Rashmeeta Das	Science City, Kolkata, March 26-27, 2011
12.	Timing-Sync Protocol For Sensor Networks	National Conference on Mobile Communications	Guru Nanak Institute of Technology, Kolkata	Esha Saha, Anindya Ghosh, Dorathy Dey, Rashmeeta Das	Guru Nanak Institute of Technology, Kolkata, July 25-26, 2011

***Published Article in Magazine/Newsletter:***

SL. No.	Title of Article	Name of Magazine/Newsletter	Author	Year	Reference
1.	Case-Mix Planning Problem and Resource Allocation in Hospitals Issues and Challenges	Asian Hospital and Healthcare Management	Esha Saha	2020	<a href="https://www.asianhbm.com/articles/case-mix-planning-problem-and-resource-allocation-in-hospitals-issues-and-challenges">https://www.asianhbm.com/articles/case-mix-planning-problem-and-resource-allocation-in-hospitals-issues-and-challenges</a>

**Workshops Attended**

- Attended 5-day Faculty Development Programme on Doing High Quality Research in Management organized by Paari School of Business, SRM University, Amaravati, Andhra Pradesh, India.
- Attended 4-day Teaching Orientation Programme organized by Teaching and Learning Centre, SRM University, Amaravati, Andhra Pradesh, India.
- Certificate of Completion for completing crash course on NBA Accreditation: Learn, Apply & Upgrade by Edhitch.com (Adapedu Online Technologies Pvt Ltd.), May 28, 2022.
- Attended 5-day workshop on Designing and Modelling of IoT, AI & ML Systems organized by All India Council for Technical Education (AICTE), Arm Education and STMicroelectronics. August 1-5, 2022.
- Attended Webinar on Impact of AI during Pandemic Times by Dr. Raul V. Rodriguez, and Dr. Samala Nagaraj at Woxsen School of Business, organized by McGraw Hill, June 4, 2020.

- Attended Webinar on Python Programming, organized by Star Certification, May 23, 2020.
- Attended Webinar on Big Data Analytics by Dr. Praveen Ranjan Srivastava from IIM Rohtak organized by Star Certification, May 18, 2020.
- Attended Webinar on Impact of pandemic on entrepreneurship in India by Saurabh Chandra, BITS & IIM-A Alumnus and Industry Expert organized by McGraw Hill, May 14, 2020.
- Attended Webinar on Leadership in Times of Crisis by Dr. Himanshu Rai, Director, IIM Indore organized by McGraw Hill, May 7, 2020.
- Completed On-line Course on Healthcare Organizations and the Health System by Rutgers the State University of New Jersey offered by Coursera, June 4, 2020.
- Completed On-line Course on Introduction to Python by Coursera Project Network, June 4, 2020.
- Cesim Certified Trainer: Successfully completed the Cesim Simulation Training organized by Rajagiri Business School, November 28 to 29, 2019.
- Attended workshop on New Product Development using Systems Engineering Principles organized by Industrial and Systems Engineering Department, Indian Institute of Technology Kharagpur on March 16 - 18, 2017.
- Attended workshop on Multivariate Analysis using SPSS and Spreadsheets organized by School of Management Studies, National Institute of Technology Calicut on 30th January 2014 to 1st February 2014.
- Attended workshop on Models and Methods for Supply Chain Decisions, organized by the department of Mechanical Engineering & Centre for continuing Education, National Institute of Technology Calicut on 06th April 2013.
- Attended workshop on Cloud Computing and Virtualization, organized by National Institute of Technology, Calicut on October 19th-20th, 2012.
- Attended workshop on Statistical Analysis for Research organized by the Department of Mechanical Engineering, National Institute of Technology, Calicut on October 6th, 2012.

### **Awards and Honours**

- Secured best poster presentation award for the paper “Patient Condition-based Healthcare Inventory Management System” in the Doctoral Colloquium and Research Scholars’ Day organized by IISE, IIT Kharagpur Student Chapter, Indian Institute of Technology Kharagpur, India on February 17, 2018.
- Secured best power-point presentation award for the paper “Modelling and Analysis of Healthcare Inventory Management Systems” in the Doctoral Colloquium and Research Scholars’ Day organized by IISE, IIT Kharagpur Student Chapter, Indian institute of Technology Kharagpur, India on March 24 – 25, 2017.
- Secured second position in the poster presentation competition in the Research Scholars’ Day organized by Industrial and Systems Engineering Department, Indian Institute of Technology Kharagpur on March 19, 2016.
- Honoured as Research Scholar Representative of the Department of ISE, IIT Kharagpur, 2017.
- Honoured as Women Representative of the Department of ISE, IIT Kharagpur, 2017-18.
- Qualified GATE-2012 in Instrumentation with score 474 and Rank 652.
- Teaching Assistant, NPTEL Online Certification Course on Quality Design and Control, Indian Institute of Technology Kharagpur, Kharagpur (India), 2017.



- Successfully Completed Module on Orientation Towards Technical Education and Curriculum Aspects of National Initiative for Technical Teachers Training, February 2021.
- Successfully Completed Module on Creative Problem Solving, Innovation, and Meaningful R&D of National Initiative for Technical Teachers Training, February 2021.
- Successfully Completed Module on Communication Skills, Modes and Knowledge Dissemination of National Initiative for Technical Teachers Training, February 2022.

### **Memberships**

- Life Member, Operational Research Society of India, Membership No. 1232/E/16/ML, Chapter ORSI HQ, December 31, 2016.
- Senior Member, Indian Society of Mechanical Engineers (ISME), Membership No. SMISME20161210004, December 10, 2016.
- Life Member, Indian Society of Medical Statistics, Membership No. LM-201623, December 31, 2016.
- Ordinary Member, Indian Statistical Institute, Membership No. O/9487-2017, November 03, 2017.

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