

**: FACULTY DETAILED RESEARCH DATA:**

**Name of the Faculty: SUMANA CHAKRABORTY**

**Designation: ASSISTANT PROFESSOR**

**Department: COMPUTER SCIENCE & ENGINEERING**

**School: SCHOOL OF ENGINEERING**

**Research Area: Image Processing, Artificial Intelligence and Machine Learning**

**Details of research portfolio of faculty:**

**A. Researcher's ID details:**

Google Scholar ID: 5K72NDkAAAAJ

Orchid ID: 0009-0007-8587-8216

Scopus ID:57680486100

Vidwan ID: 364152

**B. Publication details:**

**1. Conference proceedings/ Conference paper:**

Sl. No.	Name of the Conference	Title of the paper	Month & Year of Publication	Author(s) Name	National/ International	doi number (if any)	ISSN/ISBN no.
1	All India Conference on Intelligent Systems & Security Challenges in Industry 5.0 -"ISSCI-2023"	Analysis of Concrete Surface Cracks using Convolutional Neural Network	2025	S. Poddar,A. Dasgupta, S. Chakraborty	International		
2	International Conference on Integrative Science and Engineering (ICISE) 2023	<b>Artificial Intelligence in Games: Enhancements, Challenges, and Prospects</b>	September 2023	S. Panja, S. Chakraborty	International		

3	International Conference on Integrative Science and Engineering (ICISE) 2023, September 2023.	<b>Survey of Cyber Security Attacks, Threats, and Vulnerabilities</b>	<b>September 2023</b>	S.Mal, S. Chakraborty	<b>International</b>		
4	International Conference on Integrative Science and Engineering (ICISE) 2023	<b>Research relevant of population density: Survey from India</b>	<b>September 2023</b>	S. Dutta, S. Chakraborty	<b>International</b>		
5	International Conference on Integrative Science and Engineering (ICISE) 2023	<b>A Comprehensive IoT and Machine LearningBased Women Safety Device for Enhanced Personal Security</b>	<b>September 2023</b>	P. Majhi, s. Chakraborty	<b>International</b>		
6	International Conference on Integrative Science and Engineering (ICISE) 2023	<b>Cardiovascular Diseases Prediction using Multimodal methodology in Deep Learning</b>	<b>September 2023</b>	A. Chowdhury, S. Chakraborty	<b>International</b>		
7	International Conference on Engineering Design and Computing (ICEDC)-2024	<b>Energy-Efficient Algorithms for Image Processing on Edge Devices</b>	<b>February 2024</b>	S.Chakraborty	<b>International</b>		
8	International Conference on Engineering Design and Computing (ICEDC)-2024	<b>Image Processing for Smart Agriculture and Precision Farming</b>	<b>February 2024</b>	S.Chakraborty	<b>International</b>		



### 3. Book chapter:

Sl. No.	Title of the book	Publishers	Author(s) Name (Highlight the corresponding and 1 <sup>st</sup> author in every article)	Year	ISBN No.	doi no. (if applicable)
1	Sustainable and Predictive Analytics Model	Swami Vivekananda University	Sumana Chakraborty	2024	978-93-5967-752-1	
2	Applications of Internet of Things (IoT) in Smart Cities	Swami Vivekananda University	Sumana Chakraborty	2024	978-81-974233-0-7	
3	The Evolution and Future of Generative AI: From Theory to Practice	Swami Vivekananda University	Sumana Chakraborty	2024	978-81-974233-5-2	
4	Application of Machine Learning in Smart Education Technology	Swami Vivekananda University	Sumana Chakraborty	2024	978-81-974233-2-1	
5	Probabilistic Sink Placement Strategy in Wireless Sensor Network	Advances in Intelligent Systems and Computing( Springer)	Sumana Chakraborty	2019	978-981-13-1539-8	
6	Recent Trends of Applications of AI Tools for Surface Irregularities Detection in NDT	All India Conference on Intelligent Systems & Security Challenges in Industry 5.0 -"ISSCI-2023"	Sumana Chakraborty	2025	978-93-6252-138-5	

### 4. Text/Reference book published from reputed national/international publishers:

Sl. No.	Title of the Text/Reference book	Publishers	Author(s) Name (Highlight the corresponding and 1 <sup>st</sup> author in every article)	Year	ISBN No.	doi no. (if applicable)
1	System Analysis and Design	VIKAS PUBLISHING HOUSE PVT LTD	Sumana Chakraborty and S.Rakshit	2008	978-81-259-3571-1	

**5. Project granted:**

Sl. No	Sponsoring Agency	Name of the project	Duration		Amount in Lakhs	PI/CO-PI
			Starting Month & Year	Ending month & Year		

**6. Consultancy Project Grant:**

Sl No.	Project title	Funding Agency	Duration	Completed (yes/no)	Sanctioned amount (in Rs.)	PI and CO-PI (if any)

**7. Patent/IPR granted:**

Sl. No.	Name of the patent	Name of the applicant	Name of the inventor	Date of File	Date of Publication	Whether Granted (yes/no); If yes, Date of Grant	Application No.
1	Brain Tumor Prediction using Machine Learning	Swami Vivekananda University	Sumana Chakraborty, Promita Maji, Sourav Saha, Sangita Bose, Jayanta Chowdhury	27/11/2024	06/12/2024	NO	202431092982 A
2	Cardiovascular Diseases Prediction using Multimodal Methodology in Deep Learning	Swami Vivekananda University	Sumana Chakraborty, Anupam Chowdhury, Sourav Saha, Sangita Bose, Jayanta Chowdhury	28/11/2024	06/12/2024	NO	202431093353 A
3	Hybrid Compiler	Swami Vivekananda University	Souvik Gayan, Diprati Das, Prof. Somsubhra Gupta, Sangita Bose, Sumana Chakraborty, Subrata Nandi	21/05/2024	19/07/2024	NO	202431039789 A