

RAJ MAJUMDAR

Assistant Professor | Cryptography & Information Security Researcher
Department of Engineering, IT & CS | Parul College of Engineering, Parul University Goa

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 Scopus ID: 59954178100

Summary

Research-oriented MCA graduate and Assistant Professor specializing in Cryptography and Information Security. Academic experience at Parul University, Goa (NAAC A++), with expertise in teaching, student mentoring, and research guidance. Published researcher with contributions to image encryption, secure image processing, AI, and machine learning in SCIE and Scopus-indexed journals and conferences. Committed to academic excellence, innovative teaching, and impactful research.



Education

Qualification	Board / University	Year	Percentage
 Secondary Examination (Class X)	West Bengal Board of Secondary Education	2016	45.00%
 Higher Secondary (Class XII)	West Bengal Council of Higher Secondary Education	2018	70.00%
 Bachelor of Arts (B.A.) in English (Honours)	West Bengal State University	2018-2021	58.93%
 Bachelor of Computer Applications (BCA)	Brainware University	2021-2024	86.45%
 Master of Computer Applications (MCA)	Brainware University	2024-2026	79.50%

National Entrance Examinations

Test Name	Score	Rank	Percentile	Registration No.	Qualified For
 GATE 2026 (Computer Science and Information Technology)	392	19,602	90.71	CS26S34036394	M.Tech / Ph.D Admission

Research Metrics

 Research Interest Score (RIS)	30.2
 Total Citations	41
 h-index	3
 i10-index	1

Work Experience

Position	Institution	Department / College
 Assistant Professor	Parul University, Goa NAAC A++ Accredited	Department of Computer Engineering, IT and CS Parul College of Engineering
 Exam Coordinator	Parul University, Goa NAAC A++ Accredited	IT & CS Parul College of Engineering

Subjects of Interest

Cryptography and Cyber Security		60%
Software Engineering		65%
Computer Networks		50%
C Programming		65%

Academic Publications

2024–2026

Journal Articles

Sl. No.	Title	Category	Year	Journal / Publisher	Indexing
1	Real-time Detection and Localization of Honeycomb Defects Using Hybrid Deep Learning DOI: 10.1038/s41598-025-06971-1	Machine Learning	2025	Scientific Reports	SCIE
2	Deep Learning-Based Crack Detection for Structural Monitoring DOI: 10.1007/s42452-025-07272-y	Machine Learning	2025	Discover Applied Sciences	ESCI
3	SCD-CHAOS: Dynamic S-box and Chaotic Hybrid Adaptive Image Encryption Using Multi-Map Diffusion DOI: 10.1038/s41598-026-43981-z	Cryptography	2026	Scientific Reports	SCIE
4	HL-IEM: A Hilbert–Logistic Dual-Layer Chaotic Encryption Mechanism for Lightweight and Secure Image Communication DOI: 10.1038/s41598-026-51078-w	Cryptography	2026	Scientific Reports	SCIE
5	HYPZAC: Hybrid Zigzag and Arnold Cat Map Based Image Encryption DOI: 10.1007/s42979-026-04810-2	Cryptography	2026	SN Computer Science	ESCI
6	Data-Driven Multi-Objective Optimization of Recycled Aggregate Concrete Mixes via LightGBM Strength Modelling and SHAP Interpretability DOI: 10.1007/s44163-026-01230-2	Machine Learning	2026	Discover Artificial Intelligence	Scopus Q1
7	Deterministic Mamdani Fuzzy-Controlled KAA and Hybrid Logistic–Sine Chaotic Image Encryption with AES S-Box Substitution Status: In Press	Cryptography	2026	Discover Internet of Things	Scopus Q1
8	LexiCAL: An Adaptive Mamdani-Assisted Chaotic Feistel–3D Cellular Automata Scheme for Secure IoT Image Encryption Status: In Press	Cryptography	2026	International Journal of Networked and Distributed Computing	ESCI

Manuscripts Under Final Review

Sl. No.	Title	Category	Year	Journal	Status
1	Adaptive Colour Image Encryption via Elliptic-Curve Key Agreement and Genetic Optimization of Chaotic Dynamics Final Review Completed and Accepted – In Press	Cryptography	2026	Scientific Reports	Peer Review
2	HELICS: Hybrid Encrypted Lightweight Image Confusion System Using CNN, Chaotic Maps, and Lightweight Cryptography Final Review Completed	Image Security	2026	Applied Intelligence	Under Final Review
3	Enhancing Real-Time IoT Image Security: A Lightweight Tri-Chaotic Encryption Framework Final Review Completed	IoT Security	2026	Multimedia Tools and Applications	Under Final Review
4	An Intelligent Framework for Selective Image Encryption Using CNN-Based Sensitive Image Detection and Tinkerbell–Henon Chaotic DNA Cryptography Peer Review	Image Encryption / Cybersecurity	2026	International Journal of Machine Learning and Cybernetics	Under Peer Review

Book Chapters

Sl. No.	Chapter Title	Category	Year	Book / Publisher	Indexing
1	Advancements in Audit and Accounting: AI's Role in Enhancing Accuracy, Reducing Fraud, and Improving Efficiency Book: Business Sustainability in the Era of AI DOI: 10.70381/906.25	Artificial Intelligence	2025	Bharti Publications	ISBN: 978-93-47303-90-6

Conference Articles

Sl. No.	Title	Category	Year	Journal / Publisher	Indexing
1	A Hybrid Approach to Image Encryption Using Rule 150 Cellular Automata and Lozi Map DOI: 10.1109/ICALET65052.2025.11211369	Cryptography	2025	IEEE Xplore	Scopus
2	Chaos-Driven Image Encryption Using Zigzag Patterns and Chebyshev Dynamics DOI: 10.1109/ICALET65052.2025.11210921	Cryptography	2025	IEEE Xplore	Scopus
3	An Efficient Image Cipher Based on Lorenz System and Cellular Automata Rule 105 DOI: 10.1109/ICALET65052.2025.11210917	Cryptography	2025	IEEE Xplore	Scopus
4	ICAR30: Image Encryption Using Ikeda Map and Cellular Automata DOI: 10.1007/978-981-96-9239-2.29	Cryptography	2025	Springer	Scopus
5	Convolutional Neural Networks for Accurate Breast Cancer Diagnosis: A Deep Learning Approach DOI: 10.1007/978-981-96-9650-5.25	Machine Learning	2025	Springer	Scopus
6	DeepCAL: An MLP-Assisted Hybrid Image Encryption Scheme Using Chen 3D Chaos, Feistel-Based 3D Cellular Automata, and LFSR Presented at STESI 2026, Paper ID: 340 Accepted Papers Link Presented & In Press	Machine Learning	2026	IEEE Xplore	Scopus
7	FAMCA-IE: A Fuzzy-Adaptive Mamdani and Cellular Automata Based Image Encryption Framework Presented at STESI 2026, Paper ID: 340 Accepted Papers Link Presented & In Press	Machine Learning	2026	IEEE Xplore	Scopus

Technical Skills

 Programming Languages	C, Python
 Libraries & Frameworks	PyTorch, TensorFlow
 Research Tools	LaTeX (Overleaf), Microsoft Office Suite (Word, Excel, PowerPoint)
 Research Domains	Applied Cryptography (Image Encryption), Machine Learning, Deep Learning

Certifications

 AICTE ATAL Academy FDP	Faculty Development Program (FDP) Emerging Trends in IoT: Developments and Challenges Elite Institute of Engineering and Management (Polytechnic) <i>Jul 28, 2025 – Aug 2, 2025</i> Certificate No.: ATAL/2025/1748877754
 SysAlgo Certification	Front-End Development using React.js Student ID: EJ23031507
 Brainware University	Front-End and UI Development Registration No.: 21013001402

Achievements

 **Best Conference Paper Award**

AIRISE 2025 [\[View\]](#)

Manipal University Jaipur [\[View\]](#)

Extended to *Discover Applied Sciences* [\[Journal\]](#)

 **3rd National Rank**

XICAI 2024 [\[View\]](#)

The Xavier International Conference on Artificial Intelligence

XIM University, Bhubaneswar

Personal Details

 **Nationality**

Indian

 **Category**

Scheduled Caste

 **Languages**

Bengali, English, Hindi

Academic Profiles

 **Google Scholar**

[View Profile](#)

 **LinkedIn**

[View Profile](#)

 **ORCID**

[View Profile](#)

Declaration

I hereby declare that the information provided above is true and correct to the best of my knowledge and belief.

Place: _____

Signature: _____

Date: _____

Mr. Raj Majumdar