

Abu Sufian

Assistant Professor (Senior Scale), UGB
Senior Member, IEEE
Former Postdoc, National Research Council of Italy

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Career Summary

Teacher and AI researcher with over 10 years of university teaching experience and international postdoctoral research in Italy. Author of 50+ peer-reviewed publications with 3,000+ Google Scholar citations with h-index of 18. Research experience on Generative AI, Responsible AI, Foundation Models, Computer Vision, Biometrics, and Digital Media Forensics. Experienced in outcome-based education curriculum development, graduate research supervision, grant-funded projects, and international academic collaboration.

Research Vision

My research has evolved from optimization and intelligent systems during my PhD to Responsible AI, Explainable AI, and Foundation Models through my postdoctoral work at CNR-ISASI, Italy. My current research focuses on the following areas, aiming to advance trustworthy AI, mentor graduate researchers, secure external funding, and foster academia-industry collaboration.

- Deep Learning
- Foundation Models
- Explainable AI
- Responsible AI
- Computer Vision
- Natural Language Processing
- AI for Healthcare
- Biometrics
- Digital Media Forensics

Research Metrics

Publications	Academic Impact
Journal Papers: 27	Google Scholar Citations: 3,052
Conference Papers: 18	Scopus Citations: 1,752
Book Chapters: 5	Google Scholar h-index: 18
Edited Book: 1 (ongoing)	Scopus h-index: 14
Pre-Print: 2	Research Projects: 6
Under Review Papers: 4	PhD Supervised: 4 & MSc Dissertations Supervised: 34

Teaching Philosophy & Areas

I teach by grounding theory in real-world problems, beginning with simple, relatable examples to build conceptual understanding, then moving to theoretical foundations, and finally brainstorming with open-ended problems. I prioritise critical thinking, ethical awareness, and research exposure, aiming to produce industry-ready graduates who are not only technically elite but also ethically aware, socially responsible, and equipped to lead in a global, AI-driven workforce. My teaching areas span the following UG and PG courses, though not limited to:

UG	PG
Programming Languages	Generative AI
Data Structures & Algorithms	Machine Learning
Database Management Systems	Deep Learning
Data Communication & Networks	Natural Language Processing
Cryptography	Computational Intelligence
Artificial Intelligence (AI)	Digital Media Forensics

Education

- 2022

Ph.D. in Computer Science, Visva-Bharati University (An Institute of National Importance), Santiniketan, India.

Thesis: *Performance Enhancement in Mobile Ad-hoc Networks using Fuzzy Control*.
- 2010

Master of Computer Applications (MCA), Maulana Abul Kalam Azad University of Technology, India.
- 2007

B.Sc. (Honours) in Mathematics, University of Kalyani, India.

Academic Experience

- Jan 2026–Present

Assistant Professor (Senior Scale)
Department of Computer Science, University of Gour Banga, India.

Primary Roles:

 - Teaching UG & PG Computer Science and AI courses, supervising laboratory sessions.
 - Supervising MSc and PhD research in AI and Computer Science.
 - Leading funded research and outcome-based curriculum development initiatives.
- Aug 2024–Dec 2025

Postdoctoral Researcher in Artificial Intelligence
National Research Council of Italy (CNR-ISASI), Lecce, Italy.

Primary Role:

 - CNR Unit Researcher conducting fundamental research in Computer Vision, Pattern Recognition, and Machine Learning for multimodal data analysis in pervasive solutions, with a focus on Responsible AI.
- Feb 2016–Jul 2024

Assistant Professor
Department of Computer Science, University of Gour Banga, India.

Primary Roles:

 - Teaching UG & PG Computer Science and AI courses, supervising laboratory sessions.
 - Supervising MSc research in AI and Computer Science.
 - Leading funded research and outcome-based curriculum development initiatives.

Selected Achievements

- Awarded a competitive **Senior Postdoctoral Fellowship** at the National Research Council of Italy (CNR-ISASI) under the EU-funded FAIR (Future Artificial Intelligence Research) Project.
- Authored **50+ peer-reviewed publications**, including articles in leading journals and conferences in Artificial Intelligence, Computer Vision, and Media Forensics.
- Received **3,000+ Google Scholar** citations with a Google Scholar **h-index of 18** and 1700+ Scopus Citations with a Scopus h-index of 14.
- Elevated to **Senior Member, IEEE** and actively associated with the IEEE Computational Intelligence Society and IEEE Biometrics Council.
- **Principal Investigator (PI)** of a grant by the Anusandhan National Research Foundation (ANRF), Government of India.
- Organizing 8th International Conference on Computational Intelligence in Communications and Business Analytics (CICBA-2026: www.cicba.in) as **Program Chair**, with proceedings in the Springer Nature CCIS series.
- Established active **research collaborations** with researchers and institutions across Europe, Asia, and the Middle East.

Selected Publications

6. **DemoFace: A Demographic Pixelated Face Biometric Image-Text Embedding Dataset with Fairness Baselines.**
Abu Sufian, Anirudha Ghosh, Debaditya Barman, Cosimo Distanto, Marco Leo, & Farhana Sultana. *Pattern Recognition*, Elsevier, Vol.175, 113091, (2026). [WebLink](#)
5. **Explainable Deepfake Detection Across Different Modalities: An Overview of Methods and Challenges.**
MDS Momin, Abu Sufian, Debaditya Barman, Marco Leo, Cosimo Distanto, & Naser Damer. *Image and Vision Computing*, Elsevier, Vol. 163, 105738, (2025). [WebLink](#)
4. **FewFaceNet: A Lightweight Few-Shot Learning-based Incremental Face Authentication for Edge Cameras.**
Abu Sufian, Anirudha Ghosh, Debaditya Barman, Marco Leo, Cosimo Distanto, and Baihua Li. In *ICCV 2023 Workshop: Assistive Computer Vision and Robotics*, Paris, October 2 - 6, 2023. Proceeding in IEEE Xplore. [WebLink](#)
3. **Vision-based Human Fall Detection Systems using Deep Learning: A Review.**
Ekram Alam, Abu Sufian, Paramartha Dutta, and Marco Leo, *Computers in Biology and Medicine*, Elsevier, Vol. 146, 105626 (2022). [WebLink](#)
2. **EDTP: Energy and Delay Optimized Trajectory Planning for UAV-IoT Environment.**
Anuradha Banerjee, Abu Sufian, Krishna Keshob Paul, and Sachin Kumar Gupta. *Computer Networks*, Elsevier, Vol. 202, 108623, (2021). [WebLink](#)

1. **Evolution of Image Segmentation using Deep Convolutional Neural Network: A Survey.**
Farhana Sultana, **Abu Sufian**, and Paramartha Dutta. *Knowledge-Based Systems*, Elsevier, Vol. 201-202, 106062, (2020). [WebLink](#)

Project Grants

Year	Role	Funding Agency	Amount
2026	PI	Anusandhan National Research Foundation (ANRF), India	200,000 INR
2023–25	Researcher	EU FAIR Project (NextGenerationEU)	581,949 Euro
2024–25	Consultant	Funded by Ministry of Edu. through KFU, Saudi Arabia	30,000 SAR
2022–23	Consultant	Funded by Ministry of Edu. through KFU, Saudi Arabia	30,000 SAR
2022	Consultant	Funded by Ministry of Edu. through KFU, Saudi Arabia	30,000 SAR
2020	Consultant	Funded by Ministry of Edu. through KFU, Saudi Arabia	30,000 SAR

Administrative and Leadership Responsibilities

Jul 2022–Jun 2026	Convener , Board of Research Studies to Introduce PhD program Department of Computer Science, University of Gour Banga, India.
2019–2020	Joint Convener to lead the Master's Degree Admission, Postgraduate Admission Committee, University of Gour Banga, India.
Aug 2017–Aug 2019	Coordinator (Head) to lead the overall departmental activities and initiatives, Department of Computer Science, University of Gour Banga, India.
Aug 2017–Aug 2019	Convener of Board of Studies for outcome-based curriculum de- sign, delivery planning, and evaluation. Department of Computer Science, University of Gour Banga, India.
Jan 2013–Feb 2016	Secretary to academic planning and execution, Academic Council, Kanska Rahimia High Madrasah (Higher Sec- ondary), India.

Professional Experience Prior to Higher Education Appointments

Jul 2011–Feb 2016	Assistant Teacher in Mathematics Kanska Rahimia High Madrasah (Higher Secondary), India.
Nov 2010–Jul 2011	Block Social Audit Coordinator MGNREGA Project, Krishnanagar-II Development Block, India.

Additional Activities (Details in Appendix)

- Invited Talks & Presentations: **12**
- International & National Events Organized: **9**
- Faculty Development, Training Programs, & Short term Courses: **20**

Professional References

- **Prof. Cosimo Distant**e, Unit Director, National Research Council of Italy - Institute of Applied Sciences and Intelligent Systems (CNR-ISASI), Lecce, Italy. cosimo.distante@cnr.it
- **Prof. Paramartha Dutta**, Professor, Department of Computer & System Sciences, Visva-Bharati, India. paramartha.dutta@visva-bharati.ac.in
- **Prof. Mianxiong Dong**, Professor and Vice President, Muroran Institute of Technology, 27-1 Mizumoto-cho, Muroran, Hokkaido, 050-8585, Japan. mx.dong@csse.muroran-it.ac.jp
- **Dr. Marco Leo**, Senior Researcher, National Research Council of Italy - Institute of Applied Sciences and Intelligent Systems (CNR-ISASI), Lecce, Italy. marco.leo@cnr.it
- **Farhana Sultana**, Head, Department of Computer Science, University of Gour Banga, India. sfarhana@ugb.ac.in

Appendix

List of Publications

J1. List of Journal Papers as First or the Corresponding Author

14. **Abu Sufian**, Anirudha Ghosh, Debaditya Barman, Cosimo Distanto, Marco Leo, & Farhana Sultana. “DemoFace: A Demographic Pixelated Face Biometric Image-Text Embedding Dataset with Fairness Baselines.” *Pattern Recognition*, Elsevier, Vol. 175, 113091, (2026). [WebLink](#)
13. Mohammed Al-Naeem, MM Hafizur Rahman, Anuradha Banerjee, & **Abu Sufian**. “BSM-DND: Bias and Sensitivity-Aware Multilingual Deepfake News Detection Using Bloom Filters and Recurrent Feature Elimination.” *IEEE Access*, Vol. 13, (2025). [WebLink](#)
12. MDS Momin, **Abu Sufian**, Debaditya Barman, Marco Leo, Cosimo Distanto, & Naser Damer. “Explainable Deepfake Detection Across Different Modalities: An Overview of Methods and Challenges”, *Image and Vision Computing*, Elsevier, Vol. 163, 105738, (2025). [WebLink](#)
11. Anuradha Banerjee, **Abu Sufian**, Paramartha Dutta, and MMH Rahman. “Minus HELLO: HELLO Devoid Protocols for Energy Preservation in Mobile Ad-hoc Networks.” *Sustainable Computing: Informatics and Systems*, Elsevier, Vol. 26, 100852, (2023). [WebLink](#)
10. Md Sarfaraz Momin, **Abu Sufian**, Debaditya Barman, Paramartha Dutta, Mianxiong Dong, and Marco Leo. “In-home Older Adults’ Activity Pattern Monitoring using Depth Sensors: A Review.” *Sensors*, MDPI, Vol. 22(23), 9067, (2022). [WebLink](#)
9. **Abu Sufian**, Anirudha Ghosh, Avijit Naskar, Farhana Sultana, Jaya Sil, MMH Rahman. “BDNet: Bengali Handwritten Numeral Digit Recognition based on Densely Connected Convolutional Neural Networks.” *Journal of KSU - Computer and Information Sciences*, Elsevier, Vol. 34, Issue 6, Part A, (2022). [WebLink](#)
8. Anuradha Banerjee and **Abu Sufian**. “Smart-Green-Mult (SGM): Overhear from Topological Kingpins in Software Defined Wireless Sensor Networks.” *Journal of Ambient Intelligence and Humanized Computing*, Springer, Vol. 12, 387–404, (2021). [WebLink](#)
7. **Abu Sufian**, Anirudha Ghosh, Ali Safaa Sadiq, and Florentin Smarandache. “A Survey on Deep Transfer Learning to Edge Computing for Mitigating the COVID-19 Pandemic.” *Journal of Systems Architecture*, Elsevier, Vol. 108, 101830, (2020). [WebLink](#)
6. Farhana Sultana, **Abu Sufian**, and Paramartha Dutta. “Evolution of Image Segmentation using Deep Convolutional Neural Network: A Survey.” *Knowledge-Based Systems*, Elsevier, Vol. 201-202, 106062, (2020). [WebLink](#)
5. **Abu Sufian**, Anuradha Banerjee, and Paramartha Dutta. “Energy and Velocity based Tree Multicast Routing in Mobile Ad-hoc Networks.” *Wireless Personal Communications*, Springer, Vol. 107, no. 4, 2191-2209 (2019). [WebLink](#)

4. Anuradha Banerjee, Paramartha Dutta, and **Abu Sufian**. "Movement Guided Management of Topology (MGMT) with Balanced Load in Mobile Ad-hoc Networks." *International Journal of Information Technology*, Springer, Vol. 11, 149-158 (2019). [WebLink](#)
3. **Abu Sufian**, Anuradha Banerjee, and Paramartha Dutta. "Cheat-Proof Communication through Cluster Head (C3H) in Mobile Ad Hoc Network." *Pertanika Journal of Science and Technology*, University Putra Malaysia, Vol 26 (3), 1513-1526, (2018). [WebLink](#)
2. Anuradha Banerjee, **Abu Sufian**, and Paramartha Dutta. "EMR-PL: Energy-efficient Multipath Routing based on Link Life Prediction in Ad-hoc Networks." *Journal of Information and Optimization Sciences*, Taylor & Francis, Vol. 39(1): 285-301, (2018). [WebLink](#)
1. Anuradha Banerjee, Paramartha Dutta, and **Abu Sufian**. "Fuzzy-controlled energy-efficient single hop clustering scheme with (FESC) in ad hoc networks." *International Journal of Information Technology*, Springer, Vol. 10, 313-327 (2018). [WebLink](#)

J2. List of Journal Papers as a Co-Author

13. Puja Bhakta, Debaditya Barman, Taniya Chatterjee, Mili Ghosh, Rahul Karmakar, **Abu Sufian**, Marco Leo, and Cosimo Distanto. "NAMSA: A Non-dominated Archived Multi-objective Simulated Annealing Algorithm for Detecting Influencers in Social Networks." *IEEE Access*, Vol. 14, (2026). [WebLink](#)
12. Anirudha Ghosh, Deabditya Barman, **Abu Sufian**, & Ibrahim A. Hameed. "Advancing Optical Character Recognition for Low-Resource Scripts: A Siamese Meta-Learning Approach with PSN Framework", *IEEE Access*, Vol. 12, (2024). [WebLink](#)
11. Ekram Alam, **Abu Sufian**, Paramartha Dutta, Marco Leo, and Ibrahim A. Hameed. "GMDCSA-24: A Dataset for Human Fall Detection in Videos." *Data in Brief*, Elsevier, Vol. 57, 110892, (2024). [WebLink](#)
10. Anuradha Banerjee, Sachin Kumar Gupta, Parul Gupta, **Abu Sufian**, Ashutosh Srivastava, Manoj Kumar. "UAV-IoT collaboration: Energy and Time-saving Task Scheduling Scheme." *International Journal of Communication Systems*, Wiley, Vol. 36(14):e5555, (2023). [WebLink](#)
9. Anuradha Banerjee, **Abu Sufian**, Ashutosh Srivastava, Sachin Kumar Gupta, Saru Kumari, and Sachin Kumar. "An Energy and Time-Saving Task Scheduling Algorithm for UAV-IoT Collaborative System." *Microprocessors and Microsystems*, Elsevier, Vol. 101, 104875, (2023). [WebLink](#)
8. Subhankar Ghosh, Anuradha Banerjee, **Abu Sufian**, Sachin Kumar Gupta, S. H. Alsamhi, and Abdu Saif. "Efficient Selfish Node Detection using SVM in IoT-MANET Environment." *Transactions on Emerging Telecommunications Technologies*, Wiley, Vol. 34(12):e4858 (2023). [WebLink](#)
7. M Al-Naeem, MH Rahman, Anuradha Banerjee, and **Abu Sufian**. "Support Vector Machine-based Energy-efficient Management of UAV Locations for Aerial Monitoring

- of Crops Over Large Agriculture Lands.” *Sustainability*, MDPI, 15(8), 6421, (2023). [WebLink](#)
6. MH Rahman, M Al-Naeem, Anuradha Banerjee, and **Abu Sufian**. “EETO-GA: Energy Efficient Trajectory Optimization of UAV-IoT Collaborative System using Genetic Algorithm.” *Applied Sciences*, MDPI, 13(4), 2535, (2023). [WebLink](#)
 5. Ekram Alam, **Abu Sufian**, Paramartha Dutta, and Marco Leo. “Vision-based Human Fall Detection Systems using Deep Learning: A Review.” *Computers in Biology and Medicine*, Elsevier, Vol. 146, 105626 (2022). [WebLink](#)
 4. Subhankar Ghosh, Anuradha Banerjee, **Abu Sufian**, and Sachin Kumar Gupta. “Autoregressive Moving Average based Anycast with Support Vector Machine Clustering in Mobile Ad-hoc Networks.” *Transactions on Emerging Telecommunications Technologies*, Wiley, Vol. 33(4):e4432, (2022). [WebLink](#)
 3. Anuradha Banerjee, **Abu Sufian**, Krishna Keshob Paul, and Sachin Kumar Gupta. “EDTP: Energy and Delay Optimized Trajectory Planning for UAV-IoT Environment.” *Computer Networks*, Elsevier, Vol. 202, 108623, (2021). [WebLink](#)
 2. Anuradha Banerjee, **Abu Sufian**, Ali Safaa Sadiq, and Seyedali Mirjalili. “Minimum Energy Transmission Forest based Geocast in Software-Defined Wireless Sensor Networks.” *Transactions on Emerging Telecommunications Technologies*, Wiley, Vol. 32(9):e4253, (2021). [WebLink](#)
 1. Rahman, MM Hafizur, Mohammed Al-Naeem, Mohammed NM Ali, and **Abu Sufian**. “TFBN: A Cost Effective High-Performance Hierarchical Interconnection Network.” *Applied Sciences*, MDPI, Vol. 10(22), 8252, (2020). [WebLink](#)

C1. List of Conference Papers as First or the Corresponding Author

14. **Abu Sufian**, Cosimo Distanto, Marco Leo, and Hanan Salam. “T2IBias: Uncovering Societal Bias Encoded in the Latent Space of Text-to-Image Generative Models.” In *First Interdisciplinary Workshop on Responsible AI for Value Creation (REPAI 2025)*, Copenhagen, Denmark, December 01, 2025. The proceedings in Springer LNCS. [WebLink](#)
13. Ranjan Ghosh, Mili Ghosh, & **Abu Sufian**. “Bangla Deepfake Audio Detection Using Prosodic and Spectral Features.” In *International Conference on Machine Learning and Data Engineering (ICMLDE 2025)*, Dehradun, India, November 06-08, 2025. [Proceeding will come in *Procedia Computer Science*, Elsevier] [ConferenceLink](#)
12. **Abu Sufian**, Anirudha Ghosh, Debaditya Barman, Marco Leo, and Cosimo Distanto. “DemoBias: An Empirical Study to Trace Demographic Biases in Vision Foundation Models.” In *13th Int. Workshop on Biometrics and Forensics*, Munich, April 24-25, 2025. Proceedings in IEEE Xplore. [WebLink](#)
11. **Abu Sufian**, Marco Leo, Cosimo Distanto, Anirudha Ghosh, and Debaditya Barman. “Can Vision Transformers with ResNet’s Global Features Fairly Authenticate Demographic Faces?” Presented in *ICPR 2024 Workshop: FAIRBIO: Fairness in Biometric Systems*, Kolkata. Proceeding in Springer LNCS. [WebLink](#)

10. Anuradha Banerjee, **Abu Sufian**, and Marco Leo. "Machine Learning Approaches for Analyzing Physiological Data in Remote Patient Monitoring." In *ECCV 2024 Workshop: Assistive Computer Vision and Robotics*, Milan, September 29- October 4, 2024. Proceeding in Springer LNCS. [WebLink](#)
9. Farhana Sultana, **Abu Sufian** and Paramartha Dutta. "d-RIMNet: RIMNet with Depthwise Separable Convolutional Layer for Retinal OCTA Image Segmentation." In *International Conference on Computational Technologies and Electronics (ICCTE-2023)* 23-25th November 2023, hosted at the University of North Bengal, Siliguri, India. Proceeding in Springer CCIS Series. [WebLink](#)
8. **Abu Sufian**, Anirudha Ghosh, Debaditya Barman, Marco Leo, Cosimo Distanto and Baihua Li. "FewFaceNet: A Lightweight Few-Shot Learning-based Incremental Face Authentication for Edge Cameras." In *ICCV 2023 Workshop: Assistive Computer Vision and Robotics*, Paris, October 2 - 6, 2023. Proceeding in IEEE Xplore. [WebLink](#)
7. Ekram Alam, **Abu Sufian**, Paramartha Dutta, Marco Leo. "Real-Time Human Fall Detection using a Lightweight Pose Estimation Technique." In *5th CICBA 2023* 27-28th January 2023, hosted at Kalyani Govt. Engineering College, Kalyani, India. Proceeding in Springer CCIS Series. [WebLink](#)
6. Farhana Sultana, **Abu Sufian** and Paramartha Dutta. "RIMNet: Image Magnification Networks with Residual Block for Retinal Blood Vessels Segmentation." In *IEEE TENSYP 2022*, hosted at Indian Institute of Technology Bombay, July 1-3, 2022. Proceeding in IEEE Xplore. [WebLink](#)
5. **Abu Sufian**, Changsheng You, and Mianxiong Dong. "A Deep Transfer Learning-based Edge Computing Method for Home Health Monitoring." In *55th Annual Conference on Information Sciences and Systems (CISS)* hosted at Johns Hopkins University, March 24-26, 2021. Proceeding in IEEE Xplore. [WebLink](#)
4. **Abu Sufian**, Anuradha Banerjee, and Paramartha Dutta. "HFAIR: Hello Devoid Optimized Version of FAIR Protocol for Mobile Ad hoc Networks." In *Intelligence Enabled Research: DoSIER*, August 12-13, 2020. Proceeding in Springer AISC Series. [WebLink](#)
3. **Abu Sufian**, Anuradha Banerjee, and Paramartha Dutta. "A Tree Multicast Routing Based on Fuzzy Mathematics in Mobile Ad-Hoc Networks." In *International Conference on Computer Communication and Internet of Things (ICCCIoT)*, Tripura University, Agartala. Proceeding in Springer LNNS Series, (2020). [WebLink](#)
2. Farhana Sultana, **Abu Sufian**, and Paramartha Dutta. "Advancements in Image Classification using Convolutional Neural Network." In *4th International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN)*, hosted at RCC Institute of Information Technology, Kolkata, IEEE Xplore, (2018). [WebLink](#)
1. **Abu Sufian**, Anuradha Banerjee, and Paramartha Dutta. "FSNRP: Fuzzy-controlled Priority Scheduling of Non-real Time Data Packets in Mobile Ad-hoc Networks." In *11th IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)*, Bhubaneswar, India. December 17-20, 2017. Proceeding in IEEE Xplore. [WebLink](#)

C2. List of Conference Papers as a Co-Author

4. Anirudha Ghosh, Debaditya Barman, **Abu Sufian**, Megha Mandal, Cosimo Distanto, & Marco Leo. “FairVitDMD: Fairness Assessment of Foundational Vision Transformers for Deep Manipulation Detection.” In *IEEE International Conference on Computer Vision and Machine Intelligence (CVMI 2025)*. NIT Rourkela, India, October 12-13, 2025. Proceedings in IEEE Xplore. [WebLink](#)
3. Ekram Alam, **Abu Sufian**, Paramartha Dutta, Marco Leo. “Human Fall Detection using Transfer Learning-based 3D CNN.” In *the International Conference on Computational Technologies and Electronics (ICCTE-2023)* 23-25th November 2023, hosted at the University of North Bengal, Siliguri, India. Proceeding in Springer CCIS Series. [WebLink](#)
2. Farhana Sultana, **Abu Sufian** and Paramartha Dutta. “Automatic Diabetic Retinopathy Lesion Segmentation in UW-OCTA Images using Transfer Learning.” In *MICCAI 2022 Grand-challenge: DRAC22*, September 18–22, 2022, Singapore. Proceeding in Springer LNCS. [WebLink](#)
1. Ekram Alam, **Abu Sufian**, Akhil Kumar Das, Arijit Bhattacharya, Md Firoj Ali, and MM Hafizur Rahman. “Leveraging Deep Learning for Computer Vision: A Review.” In *22nd International Arab Conference on Information Technology (ACIT)*, Muscat, Oman, December 21-23, 2021. Proceeding in IEEE Xplore. [WebLink](#)

B1. List of Book Chapters as First or the Corresponding Author

4. **Abu Sufian**, Ekram Alam, Anirudha Ghosh, Farhana Sultana, Debashis De, and Mianxiong Dong. “Deep Learning in Computer Vision through Mobile Edge Computing for IoT.” *Mobile Edge Computing*, Springer, Chapter 18, pp. 443–471, (2021). [WebLink](#)
3. Farhana Sultana, **Abu Sufian**, and Paramartha Dutta. “A Review of Object Detection Models based on Convolutional Neural Network.” In *Intelligent Computing: Image Processing Based Applications*, Springer, Chapter 1, pp. 1–16, (2020). [WebLink](#)
2. **Abu Sufian**, Dharm Singh Jat, and Anuradha Banerjee. “Insights of Artificial Intelligence to Stop Spread of COVID-19.” In *Big Data Analytics and Artificial Intelligence Against COVID-19: Innovation Vision and Approach*, Springer, Chapter 11, pp. 177–190, (2020). [WebLink](#)
1. Anirudha Ghosh, **Abu Sufian**, Farhana Sultana, Amlan Chakrabarti, and Debashis De. “Fundamental Concepts of Convolutional Neural Network.” In *Recent Trends and Advances in Artificial Intelligence and Internet of Things*, Springer, Chapter 36, pp. 519–567, (2020). [WebLink](#)

B2. List of Book Chapters as a Co-Author

1. Krishna K Paul, Jishnu D Roy, Sourav Sarkar, Sena K Barai, **Abu Sufian**, Sachin K Gupta, and Ashutosh Srivastava. “Smart Agriculture Using UAV and Deep Learning: A Systematic Review.” In *Internet of Things (1st Edition)*, Taylor & Francis, Chapter 1, pp. 1–16, (2022). [WebLink](#)

Pre-print papers

2. **Abu Sufian**. “AI-generated Videos and Deepfakes: A Technical Primer.” *Authorea Preprints (TechRxiv)*, (2020). [WebLink](#)
1. Anuradha Banerjee, **Abu Sufian**, Ali Safaa Sadiq, and Seyedali Mirjalili. “Reinforcement Learning based Transmission Range Control in Software-Defined Wireless Sensor Networks with Moving Sensor.” *arXiv preprint arXiv:2005.08215*, (2020). [WebLink](#)

Papers Under Review in the Following Venues

1. *IEEE Transactions on Emerging Topics in Computational Intelligence*, IEEE.
2. *IEEE Access*, IEEE.
3. *Journal of Ambient Intelligence and Humanized Computing*, Springer.
4. *8th International Conference on Computational Intelligence in Communications and Business Analytics (CICBA 2026)*, University of Gour Banga, Malda, India, September 10–12, 2026.

List of Presentations and Invited Talks Given

15. 🎤 Delivered an invited hands-on talk on *Modern AI Tools and Their Use Cases* at the National Level Workshop organized by Srikrishna College, Bagula-741402, West Bengal, India on June 10, 2026.
14. 🎤 Invited Talk on *State-of-the-art AI Tools in the AI Era: Opportunities and Challenges* at the International Seminar on Intelligent Systems and AI Innovations: Algorithms, Tools, and Future Challenges, organized by the Department of Computer Science and Applications, Gour Mahavidyalaya, Malda, India, December 26, 2025.
13. 🗣️ Oral Presentation at *Responsible AI for Value Creation Workshop*, Copenhagen, December 1, 2025.
12. 🗣️ Oral Presentation at the 13th IEEE International Workshop on Biometrics and Forensics (IWBF 2025), Munich, April 24–25, 2025.
11. 🗣️ Oral Presentation at the ICPR 2024 Workshop: *FAIRBIO – Fairness in Biometric Systems*, Kolkata, December 1–5, 2024.
10. 🎤 Invited Talk on *Best Practices at Different Stages of Machine Learning Models* at the One-Day Seminar on IoT and Machine Learning, organized by the Department of Computer Science and Applications, Malda College, Malda, India, January 10, 2024.
9. 🎤 Invited Talk on *Deep Learning in Edge Computing for Vision-based In-home Care: Scopes & Challenges* at the Two-Day National Webinar on Application of Computational Statistics in Modern Era, Vidyasagar University, Midnapore, India, September 2–3, 2022.
8. 🎤 Invited Talk on *Deep Learning to Edge Computing to Mitigate Pandemics* at the One-Day Webinar on Efficacy and Importance of IT in COVID-19 Pandemic Con-

dition, organized by the Department of Computer Science and Applications, Malda College, Malda, India, July 28, 2020.

7. 🎤 Oral Presentation (Online) at the 55th Annual Conference on Information Sciences and Systems (CISS 2021), hosted by the Department of E.C.E., Johns Hopkins University, with technical co-sponsorship by the IEEE Information Theory Society, March 24–25, 2021.
6. 🎤 Oral Presentation at the International Conference on Computer Communication and Internet of Things, Tripura University, Agartala, India, February 3–4, 2020.
5. 🗣️ Invited Talk on *Article Writing Using L^AT_EX* at the National Symposium on Foundation and Advances in Research Methods & Computing (NSFARAC 2019), Raiganj University, India, May 13–14, 2019.
4. 🎤 Oral Presentation at the 2nd International Conference on Communication, Devices and Computing (ICCDC 2019), Haldia Institute of Technology (HIT), West Bengal, India, March 14–15, 2019.
3. 🗣️ Invited Talk on *Technology in Education* at the One-Day International Seminar on ICT, jointly organized by the Department of Mathematics and the Computer Science & Applications, Malda College, West Bengal, India, September 24, 2018.
2. 🎤 Oral Presentation at the 1st International Conference on Smart Technologies in Computer and Communication (SmartTech 2017), Amity University Rajasthan, Jaipur, India, March 27–29, 2017.
1. 🎤 Oral Presentation at the International Conference on Industry Interactive Innovations in Science, Engineering and Technology (I3SET-2K16), JIS College of Engineering, Kalyani, India, October 25–26, 2016.

List of Events Organized

10. Serving as a **Program Chair** for the 8th **International Conference on Computational Intelligence in Communications and Business Analytics (CICBA-2026)** will be held at the University of Gour Banga, Malda, India, from September 10 to 12.
9. Served as a **Technical Program Committee Member** for the 14th **International Workshop on Assistive Computer Vision and Robotics (ACVR 2026)**, held in conjunction with **ECCV 2026**, Malmö, Sweden, 7th September 2026.
8. Served as a **Technical Program Committee Member** for the 13th **International Workshop on Assistive Computer Vision and Robotics (ACVR 2025)**, held in conjunction with **ICCV 2025** in Honolulu, 19th October 2025.
7. Worked as a **Technical Program Committee Member** for organizing the **ICPR 2024 – 2nd Workshop on Fairness in Biometric Systems (FAIRBIO 2024)**, Kolkata, December 1, 2024.
6. Worked as a **Technical Program Committee Member** for organizing the 12th **International Workshop on Assistive Computer Vision and Robotics (ACVR 2024)** in conjunction with **ECCV 2024**, Milan, September 29 – October 4, 2024.

5. Worked as a **Technical Program Committee Member** for organizing the **11th International Workshop on Assistive Computer Vision and Robotics (ACVR 2023)** in conjunction with **ICCV 2023**, Paris, October 2023.
4. Worked as a **Joint Convener** for organizing an **IEEE CIS Distinguished Lecture Program (DLP)** titled “Convolutional Networks for Medical Image Analysis: Its Past, Future, and Issues.” A flagship IEEE CIS event held at the University of Gour Banga, in technical collaboration with the IEEE CIS Kolkata Chapter (virtual event), September 17, 2020.
3. Worked as **Organizing Secretary & Program Chair** for the **One-Day Workshop on IoT Analytics & Mobile Crowd Sensing**, organized at the University of Gour Banga, in technical collaboration with the Computer Society of India (CSI) Kolkata Chapter, March 29, 2019.
2. Worked as a **Coordinator** for the **One-Day Special Lecture on Learning using Shallow to Deep Architecture**, organized at the University of Gour Banga, June 15, 2018.
1. Worked as a **Convener** for the **One-Day National Symposium on Recent Trends in Computational Intelligence**, organized at the University of Gour Banga, in technical collaboration with the IEEE CIS Kolkata Chapter, June 15, 2017.

List of Trainings and Short-Term Courses Completed

Faculty Training

3. UGC Sponsored Short-term Faculty Development Program “AI-Driven MOOC Content Creation, E-Content Development and Research Methodology” Conducted by MMTTC, Indian Institute of Technology Patna, May 04-09, 2026.
2. UGC Sponsored Refresher Course in Computer Science and Information Technology at HRDC, University of Madras, February 11–24, 2022.
1. UGC Sponsored Faculty Orientation Programme at Human Resource Development Centre (HRDC), Pandit Ravishankar Shukla University, November 9–29, 2019.

Short-Term Courses

7. Self-paced online certification course on “AI in Healthcare Specialization,” offered by Stanford University through Coursera, 2021.
6. Online four-week certification course on “The Postdoc Academy: Succeeding as a Postdoc,” offered by Boston University with edX, July–August 2020.
5. Three-day “Bhuvan Overview Training” offered by National Remote Sensing Centre, ISRO, India, October 2019.
4. Self-paced online certification course on “Deep Learning Specialization: Master Deep Learning, and Break into AI,” offered by deeplearning.ai through Coursera, 2019.
3. Four-week NPTEL online certification course on “Machine Learning,” offered by KTH Royal Institute of Technology, Stockholm, February–April 2019.

2. One-week AICTE recognized short-term course on “Python Programming” held at National Institute of Technical Teachers Training & Research, Chandigarh, November 12–16, 2018.
1. Eight-week NPTEL online certification course on “Deep Learning” under NPTEL FDP, offered by Indian Institute of Technology Madras (IIT-M), August–October 2018.

Workshops and Skill Development Programs

6. One-week Advanced Entrepreneurship and Skill Development Programme (A-ESDP) on “Smart Healthcare Systems using IoT and AI/ML,” funded by Ministry of MSME, Government of India, organized by National Institute of Technology Sikkim, February 27–March 2, 2024.
5. Three-day workshop on “Machine Learning and Data Analytics,” organized by the Department of Computer Science & Engineering, Jadavpur University, March 26–28, 2019.
4. One-day symposium on “Some New Research Directions in Machine Learning & Machine Intelligence,” jointly organized by IEEE Kolkata Chapter and Dept. of Computer & System Science, Visva-Bharati University, W.B., February 25, 2017.
3. One-day International Seminar on Intelligent Computing (ISIC 2017), organized by Dept. of Information Technology, Jadavpur University, W.B. under MIC of UGC-II, with technical collaboration of IEEE CIS, Kolkata Chapter, December 16, 2017.
2. One-day seminar on “Big Data Analytics: Research Scopes, Issues, and Challenges,” organized by B.P. Poddar Institute of Management and Technology in collaboration with M.A.K.A.U.T, W.B., August 9, 2017.
1. Two-day workshop on “Scientific Document Writing Using $\text{\LaTeX}$,” held at Aliah University with CSI, Kolkata Chapter, and Aliah University, Kolkata, February 11–12, 2017.