



Mrinal Kanti Bhowmik, Ph.D (Engg.) Jadavpur University, Kolkata

Assistant Professor (Selection Grade / Academic Level 12 / AGP 8000)

Dept. of Computer Science & Engineering, Tripura University (A Central University), Suryamaninagar, Agartala, Tripura.

H-Index: 18

Citation: 1177

Ph.D. Guidance [Assesment year: 26th March 2020 to 25th March 2023, (3 years)]

Awarded

1. **Sri Rajib Debnath** has been awarded successfully Ph.D. under the **sole** guidance of **Dr. M.K. Bhowmik** on 8th March, 2022 with JRF-DRDO Project.
2. **Sri Anu Singha** has been awarded successfully Ph.D. under **sole** guidance of **Dr. M.K. Bhowmik** on 22nd April, 2021 with SRF-DRDO Project.
3. **Smt. Kakali Das** has been awarded successfully Ph.D. under guidance of **Dr. M.K. Bhowmik** (with co-guide **Prof. B.K. De**) on 20th January, 2021 with SRF-ICMR Project.
4. **Smt. Usha Rani Gogoi** has been awarded successfully Ph.D. under guidance of **Dr. M.K. Bhowmik** (with co-guide **Prof. A.K. Ghosh**) on 10th September, 2020 with DST-Inspire Fellow.

Thesis Submitted

1. **Sri Sourav Dey Roy** has been presented successfully Pre-Ph.D. seminar on 7th April, 2022 under guidance of **Dr. M.K. Bhowmik** with **CSIR-SRF (Direct) Fellow** and currently working as a **RA in DBT-Project**.

Ongoing

1. **Anindita Mohanta**, JRF-AICTE Doctoral Fellow.
2. **Puja Das**, JRF-DST - INSPIRE Fellow.
3. **Santanu Das**, JRF-ICMR Funded Project.
4. **Saswata Sarkar**, Non-NET Fellow.

Awards / Fellowships [Assesment year: 26th March 2020 to 25th March 2023, (3 years)]

1. Awarded for the **DST-SERB International Research Experience Fellowship** for the year 2022-2023, during **Fall 2022**, supported by the **Science and Engineering Research Board (SERB)**, a statutory body of the **Department of Science and Technology, Government of India**, at **NYU Center for Cybersecurity (CCS), Tandon School of Engineering, New York University**, 370 Jay Street, 10th Floor, Brooklyn, NY 11201, USA from 8th Aug, 2022 to 8th Dec, 2022 under the supervision of Professor Nasir Memon, Dean of Engineering at NYU in the Domain of Image and Video Forensics.
2. Awarded for various **National/International** Achievements during the period from 2015 to 2020, **Certificates and the Medal** recieved from Honorable Vice Chancellor, Tripura University on 15th August, 2021.

Sponsored Research Projects as Principal Investigator [Assesment year: 26th March 2020 to 25th March 2023, (3 years)]

1. **Infrared Signature of Paediatric surgical wound thermographic profiles and early stage test-accuracy study to predict the surgical site infection and development of deep learning based artificial intelligence technique for automatic image segmentation**, in collaboration with AIIMS, New Delhi, Sponsored by **Indian Council of Medical Research (ICMR)**, Government of India, Amount granted **Rs. 12.68 Lakhs**, Duration 3 years w.e.f 25th March, 2023 to till date with one JRF.
2. **Multimodal non-invasive image analysis using deep learning approach for automated diagnosis of arthritis and prediction of disease severity**, in collaboration with Jadavpur University, Kolkata, Sponsored by **Department of Biotechnology (DBT)**, Government of India, Amount granted **Rs. 60.89 Lakhs** (TU: Rs. 39.91 Lakhs, JU: Rs. 20.98 Lakhs), Duration 3 years w.e.f 23rd March, 2022 to till date with one RA, one Studentship and one Lab Attendent.
3. **Development of object detection techniques from degraded complex video sequences due to dynamic variation of scenes by different atmospheric conditions for security & surveillance**, in collaboration with Jadavpur University, Kolkata, Sponsored by **Defence Research and Development Organisation (DRDO)**, Government of India, Amount granted **Rs. 64.77 Lakhs** (TU: Rs. 46.58 Lakhs, JU: Rs. 18.19 Lakhs), Duration 3 years from 8th June, 2018 to 7th June, 2021 with 02 JRF and 02 Studentship.

Patent Filed and Published [Assesment year: 26th March 2020 to 25th March 2023 (3 years)]

1. **A System and a Method using GSNET for Presence of Gun in Complex Scenes**, filed on November 28, 2022, published on December 31, 2021.
2. **System and Method for Classification of Multiclass Scenes in Adversarial Weather using a Convolution Neural Network**, filed on November 28, 2022, published on July 22, 2022.

3. **System and Method for Detecting Object in Adverse Atmosphere by Restoring Degraded Image in Deep Convolutional Layer**, filed on January 20, 2021.
4. **A system and method for segmenting suspicious hyperthermic regions from breast thermograms**, filed on June 27, 2020.

Journal Publications [Assesment year: 26th March 2020 to 25th March 2023 (3 years)] : 07

1. Usha Rani Gogoi, **Mrinal Kanti Bhowmik*** and Gautam Majumdar **"MMSHRs: A Morphology Model of Suspicious Hyperthermic Regions for Degree of Severity Prediction from Breast Thermograms"**, **Quantitative InfraRed Thermography**, Taylor and Francis Online, Indexed by Science Citation Index Expanded (SCIE), volume: 20, Issue: 4, pp. 1-25, Impact Factor: 1.643, 2022, UGC-CARE List-II, published on 11 July 2022. **Q3 listed journal in Electrical and Electronic Engineering, Instrumentation.**
2. Sourav Dey Roy and **Mrinal Kanti Bhowmik***, **"AWDMC-Net: Classification of Adversarial Weather Degraded Multiclass Scenes using a Convolution Neural Network"**, **Computer Vision and Image Understanding**, Elsevier, Indexed by Science Citation Index (SCI), Volume: 222, pp. 103498, Impact Factor: 4.886, 2022, UGC-CARE List-II, published on 03 September 2022. **Q1 listed journal in Computer Vision and Pattern Recognition, Signal Processing, Software.**
[Google Scholar Citation: 03]
3. Rajib Debnath, and **Mrinal Kanti Bhowmik***, **"A Novel Framework for Automatic Localization of Gun Carrying by Moving Person Using Various Indoor Outdoor Mimic and Real time Views/Scenes"**, **IET Image Processing**, Indexed by Science Citation Index Expanded (SCIE), Volume: 14, Issue: 17, pp. 4663-4675, Impact Factor: 1.773, 2021, UGC-CARE List-II, published on 03 March 2021. **Q2 listed journal in Electrical and Electronic Engineering, Computer Vision and Pattern Recognition.**
[Google Scholar Citation: 48]
4. Rajib Debnath, and **Mrinal Kanti Bhowmik***, **"A Comprehensive Survey on Computer Vision Based Concepts, Methodologies, Analysis and Applications for Automatic Gun/ Knife Detection"**, **Journal of Visual Communication and Image Representation**, Indexed by Science Citation Index Expanded (SCIE), Volume 78, 2021, pp. 103165, ISSN 1047-3203, Impact Factor: 2.259, 2021, UGC-CARE List-II, published on July 2021. **Q1 listed journal in Media Technology.**
[Google Scholar Citation: 10]
5. Shawli Bardhan, Satyabrata Nath, Tathagata Debnath, Debotosh Bhattacharjee, and **Mrinal Kanti Bhowmik***, **"Designing of an Inflammatory Knee Joint Thermogram Dataset for Arthritis Classification Using Deep Convolution Neural Network"**, **Quantitative InfraRed Thermography Journal (QIRT)**, Taylor & Francis Online, Indexed by Science Citation Index(SCI), Volume: 19, Issue: 3, pp. 145-171, Impact Factor: 1.643, 2020, UGC-CARE List-II, published on 15 December 2020. **Q1 listed journal in Media Technology.**
[Google Scholar Citation: 10]
6. Anu Singha, **Mrinal Kanti Bhowmik*** and Debotosh Bhattacharjee **"Akin-based Orthogonal Space (AOS): A Subspace Learning Method for Face Recognition"**, **Multimedia Tools and Applications**, published by Springer, Indexed by Science Citation Index (SCI), Volume: 79, pp. 35069–35091, Impact Factor: 2.577, 2020, UGC-CARE List-II, published on 11 May 2020. **Q1 listed journal in Media Technology.**
[Google Scholar Citation: 11]
7. Sourav Dey Roy and **Mrinal Kanti Bhowmik***, **"Annotation and Benchmarking of a Video Dataset under Degraded Complex Atmospheric Conditions and Its Visibility Enhancement Analysis for Moving Object Detection"**, **IEEE Transactions on Circuits and Systems for Video Technology**, Indexed by Science Citation Index (SCI), Volume: 31, Issue: 3, pp. 844-862, Impact Factor: 5.859, 2020, UGC-CARE List-II, published on 29 April 2020. **Q1 listed journal in Electrical and Electronic Engineering, Media Technology.**
[Google Scholar Citation: 8]

***Corresponding Author**

Special Issue Editor [Assesment year: 26th March 2020 to 25th March 2023 (3 years)]

1. Lead Guest Editor in Special Issue **"Multimedia Technology for Security and Surveillance in Degraded Vision [1204]"**, of **Multimedia Tools and Applications**, Springer with Impact Factor : 2.311.

Realtime Dataset Creation [Assesment year: 26th March 2020 to 25th March 2023 (3 years)]

1. **IR(Infrared) Knee Joint Dataset**
2. **E-TUVD (Extended Tripura University Video Dataset)**
Accessed by: (i) Graduate School of Information Sciences, Tohoku University.
(ii) Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram, India.
(iii) National Taiwan University, Taipei, Taiwan.