

3rd International Conference on Recent Advances in Artificial Intelligence & Smart Applications

RAAISA 2025

14th & 15th December, 2025

Organized by

**Department of CSE, CSE (AI), CSE (AI & ML),
CSE (DS), CSE (IOT, CS, BT)**

University of Engineering and Management, Kolkata

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List of Accepted Papers

Paper Id	Paper Title	Names of The Authors in Sequence	Name of Corresponding Author
23	TinyML Enabled Smart T-Shirt for Multimodal Epileptic Seizure Detection and Prediction	Chandramouli Haldar, Soumik Podder	Soumik Podder
25	Brain Tumour Classification using DenseNet121 model with optimized Callback Functions	Avinaba Chakraborty, Pranabesh Basu, Shuvendu Das, Soumalya Banik, Srijita Basu	Avinaba Chakraborty
30	An AI based approach to detect sign language in real time	Snehashish Laha , Shoubhanik Banerjee , Sayan Dutta , Bipasha Mukhopadhyay , Varsha Poddar	Snehashish Laha
49	GestureSearch: A Lightweight, Real-Time Hand Gesture Interface for Search Engine Control	Agnik Bakshi, Indranjana Chatterjee, Varsha Poddar, Dr. Mudassir Rafi	Agnik Bakshi
50	CogniSynth: A Proposed Hybrid Architecture for Pedagogically-Grounded and Ethically-Aware AI Tutoring	Priyangshu Ghosh, Sudipta Sahana, Chutiporn Anutaria	Sudipta Sahana

Paper ID: 23**TinyML Enabled Smart T-Shirt for Multimodal Epileptic Seizure Detection and Prediction****Chandramouli Haldar, Soumik Podder**

Epileptic Seizure is a long-term neurological disease that involves recurrent, unprovoked seizures caused by abnormal electrical activity in the brain, which has the potential to be life-threatening if undetected. Existing seizure monitoring solutions are typically based on hospital bedside equipment or single-modality wearable systems with limited predictive power. Here, we introduce a new intelligent wearable T-shirt system that combines multimodal textile and embedded sensing modalities to facilitate real-time seizure detection and early prediction. TinyML-based edge computing is utilized with continuous low-power monitoring, along with a two-stage detection architecture with a balance between sensitivity and power. When an abnormal pattern or seizure risk is detected, the device sends multi-level alerts: (i) pre-alarms to the user to exit and go to a safe place, (ii) alarm notifications with live physiological signals and GPS position to caregivers and hospitals, and (iii) an automated voice phone call with ambient listening and on-device loudspeaker instructions to aid nearby people in administering first aid. For reliability, the system includes solar-assisted energy harvesting, contact-quality monitoring, and secure data transmission to a cloud-based clinician dashboard. With multimodal sensing, edge AI, and solid alert pathways integrated, the proposed system improves patient safety, minimizes false alarms, and facilitates proactive epilepsy management in home and community settings.

Paper ID: 25**Brain Tumour Classification using DenseNet121 model with optimized Callback Functions****Avinaba Chakraborty, Pranabesh Basu, Shuvendu Das, Soumalya Banik, Srijita Basu**

Accurate triage of brain MRI is hindered by tumour heterogeneity and operator-dependent reads. We propose a lightweight CAD pipeline that classifies slices into glioma, meningioma, pituitary, or no-tumour. MRIs were standardized ($224 \times 224 \times 3$), intensity-normalized, augmented, and class imbalance corrected via RandomOverSampler. DenseNet-121, initialized on ImageNet, was fine-tuned with categorical cross-entropy, early stopping, and model checkpointing (80/10/10 split; 20 epochs). The network achieved 98.57% training accuracy (loss 0.0202) and 98.75% test accuracy (loss 0.0182); the confusion matrix indicates strong class separability. Results show transfer-learned DenseNet can capture discriminative morphologies in routine MRI and support reliable, fast radiologic triage.

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