

ISSN Print: 2074-9074, ISSN Online: 2074-9082  
Volume 18, Number 5, October 2026

International Journal of

# Image, Graphics and Signal Processing

**Vol. 18**

No.5 Oct. 2026

**IJIGSP** **Vol. 18**

[Http:// www.mecs-press.org](http://www.mecs-press.org)

Vol. 18 No.5 October 2026



**Contents**

---

**REGULAR PAPERS**

|                                                                                                                                                                                                                                                               |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Efficient ResNet-based Deep Learning Model for Asthma and COPD Detection Using Short-Time Fourier Transform Spectrograms<br><i>G. M. Karthik, D. Lakshmi Padmaja, Nageswara Rao Medikundu, C. Sateesh Kumar Reddy, Pichili Vijaya Bhaskar Reddy, Anoop V.</i> | 1   |
| Automated Tuberculosis and Lung Cancer Co-detection Using Dual-Path ConvNet-ViT Hybrid Framework Architecture<br><i>Vinutha K., CH. Bhavani, Karthi Govindharaju, A. V. Subbarao, Spandana Shivanadhuni, Tummala Ranga Babu</i>                               | 16  |
| ByzaSpline-Fed: Gram-Weighted Functional Aggregation for Byzantine-Robust Federated Kolmogorov–Arnold Networks in Industrial IoT<br><i>Bajes Zeyad Aljunaeidi, Mouiad Fadeil Alawneh, Mohammed Tawfik</i>                                                     | 33  |
| DeepFusion-CNN: A Novel Context-aware Network for ECG-based Gender Classification<br><i>Sanjay Kumar Pandey, Bechoo Lal</i>                                                                                                                                   | 55  |
| Hybrid Metadata Fusion with Attention for Multiple IoT Device Classification using BiLSTM<br><i>B. Arathi, Ravindra Babu Kallam, Nagamani H. S., Mathamsetti Kaivalya, K. Jamal, Boudhayan Bhattacharya</i>                                                   | 76  |
| PLL based IRNSS Signal Tracking using Real Time Data<br><i>Kavita Guddad, K. L. Sudha</i>                                                                                                                                                                     | 93  |
| Multi-Task Learning for Brain Tumor Diagnosis: MRI-Glioma Net with Residual Attention and Grading Head<br><i>N. Krishnavardhan, Bhavani R., Ch. V. S. Satyamurty, Spandana Shivanadhuni, Rajesh Nekkanti, Ashwini Barbadekar</i>                              | 110 |
| Lyapunov-Stable Multispectral Edge Deep Learning for Critical Injury Triage and Resource Optimisation in Emergency Response<br><i>Serhii Vladov, Zhengbing Hu, Dmytro Uhryn, Yuriy Ushenko, Victoria Vysotska, Vladyslav Doroshenko, Daniil Zinchenko</i>     | 126 |
| Domain Adversarial Neural Networks with Model Agnostic Meta Learning Using SPECT Images for Brain Tumor Detection and Analysis<br><i>Vasamsetti Chandra Sekhararao, MV Rama Sundari, Mhm Krishna Prasad</i>                                                   | 185 |
| Image Block Mapping Lemma and Residual Refinement-Enhanced AutoBCS Framework for Block-based Compressive Sensing<br><i>Pearlly P. V., Deepa Sankar</i>                                                                                                        | 204 |
| Prediction of Dye Adsorption in Textile Industry using Machine Learning<br><i>Archana Chaudhari, Satchidanand R. Satpute, Vivek Randad, Pratik Karde, Dipak Limbhore, Rushikesh Lonikar</i>                                                                   | 223 |
| BlinkFusion: A Detector-Agnostic, EAR-Interpretable, Real-Time Blink Analysis Pipeline (YOLOv5 + Haar Fallback)<br><i>Anji Reddy Vaka, G. Niveditha, Anirban Das, Kasiprasad Mannepalli, Rajesh Nekkanti, Jamunadevi C.</i>                                   | 234 |

---