ComSIA-2026
International Conference on Computing Systems and Intelligent Applications

Organized by School of Open Learning, University of Delhi & Shaheed Rajguru
College of Applied Sciences for Women, University of Delhi
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************* CALL FOR PAPERS ***************

SPECIAL SESSION ON
Advances in Biometric Authentication and Intelligent Image Processing

SESSION ORGANIZERS:
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SESSION DESCRIPTION:
Biometric authentication has become a critical technology for secure identity verification in applications ranging from mobile banking to border control. Coupled with the rapid advancements in image processing and machine learning, the accuracy, robustness, and versatility of biometric systems have significantly improved. However, real-world deployment still faces challenges such as variations in lighting, occlusions, cross-spectral matching, spoofing attacks, and privacy concerns.

This special session aims to bring together researchers and practitioners to present cutting-edge work in biometric authentication and image processing. The focus will be on innovative algorithms, emerging modalities, multimodal fusion, and intelligent image analysis methods that enhance system reliability, security, and scalability.

RECOMMENDED TOPICS:
Topics to be discussed in this special session include (but are not limited to) the following:

1. **Biometric Authentication Techniques**
   - Face, iris, periocular, fingerprint, palmprint recognition.
   - Voice and gait biometrics.
   - Multimodal biometric systems.
2. **Image Processing for Biometrics**
   - Preprocessing techniques for noise reduction and image enhancement.

- Feature extraction and representation learning.
- Cross-spectral and low-resolution image matching**.**

3. **Machine Learning & AI for Biometric Systems**
   - Deep learning architectures for biometric recognition.
   - Explainable AI in biometrics.
   - Lightweight models for edge devices.
4. **Security & Privacy**
   - Biometric template protection and encryption.
   - Spoof detection and anti-spoofing techniques.
   - Privacy-preserving biometric systems.
5. **Real-World Applications**
   - Biometric authentication for mobile devices and IoT.
   - Surveillance and forensic applications.
   - Healthcare and e-governance.
6. **Biometric Data Quality and Bias Mitigation**
   - Fairness, bias detection, and mitigation in biometric datasets.
   - Robustness across demographics and environmental conditions.
7. **Blockchain and Decentralized Identity in Biometrics**
   - Blockchain-based biometric authentication systems.
   - Secure, decentralized, and privacy-preserving identity management.

SUBMISSION PROCEDURE:

Researchers and practitioners are invited to submit papers for this special theme session on **Advances in Biometric Authentication and Intelligent Image Processing on or before 15th September 2025.** All submissions must be original and may not be under review by another publication. INTERESTED AUTHORS SHOULD CONSULT THE CONFERENCE'S GUIDELINES FOR MANUSCRIPT SUBMISSIONS at
https://comsia.in/paper_submission.html. All submitted papers will be reviewed on a double-blind, peer review basis.

NOTE: While submitting paper in this special session, please specify **Advances in Biometric Authentication and Intelligent Image Processing** at the top (above paper title) of the first page of your paper.

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