



INAUGURAL INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION (Virtual), ICPRv 2027

October 4,5,6, and 14,15, 2027 <https://iapr.org/icpr-2027/>

CALL FOR PAPERS

The International Conference on Pattern Recognition Virtual (ICPRv) is the virtual extension of the flagship physical conference of the International Association for Pattern Recognition, the 29th edition of ICPR. Like its physical counterpart, this **fully virtual conference** encompasses a wide range of topics where Pattern Recognition methods are applied in fields including Computer Vision, Machine Learning, Image Processing, Speech and Natural Language Processing, and Sensor Pattern Processing.

The Inaugural ICPRv, to be held in 2027, offers an excellent platform for students, academics, and industry researchers to foster new ideas and collaborations. Unlike the face-to-face ICPR conferences, ICPRv will not have tracks and plenary sessions. Instead, all papers will be presented in two-hour thematic sessions of papers on the same topic. This will create sessions with a more focussed and specialized workshop-like feel, with opportunities for discussion and interaction with the authors. Authors will identify their preferred thematic session topic when they submit their paper. Delegates can attend any and all of the live thematic sessions, which will also be recorded for the benefit of delegates wanting to attend simultaneous sessions or sessions at inconvenient times.

As well as the traditional ICPR conference topics listed at the end of this CFP, we encourage papers on truly novel research problems. Examples include (but not restricted to):

1. **Universal Neuro-Symbolic Knowledge Engines:** Foundation models still hallucinate and update knowledge poorly. New architectures should fuse LLMs with dynamic knowledge graphs to absorb rich documents, update world models without retraining, and enable provable reasoning over evolving scientific and enterprise data.
2. **Omnimodal Embodied World Models:** Current research still treats vision, audio, and text separately. The next step is to build omnimodal world models that integrate physics and asynchronous IoT signals, enabling robots to understand real-world causal rules and transfer smoothly from simulation to deployment.
3. **Continuous-Time Fluid Architectures:** Efficient AI still relies on discrete tokens and batching. The next frontier is continuous, asynchronous architectures that adapt compute to signal entropy, using little energy for simple data and deeper reasoning only for anomalies or complex patterns.
4. **Mechanistic Fairness and Provable Unlearning:** Current trustworthy AI methods remain largely post-hoc. The next step is to combine mechanistic interpretability and algorithmic fairness so models can isolate and remove specific biases or sensitive content, with provable guarantees of privacy and fairness for critical domains such as law and medicine.
5. **Adversarial Co-Evolutionary Data Ecosystems:** As generative AI advances, the generator–detector arms race is becoming unsustainable. A next step is closed-loop ecosystems where generators and forensic models co-evolve during training, embedding cryptographic provenance and robust invisible watermarks directly into generated outputs.
6. **Causal Discovery Foundation Models:** Causal discovery remains an emerging field. The next leap is foundation models that can design experiments, intervene in simulations, and infer causal equations from observational data, moving beyond prediction to uncover the physical or

economic laws governing a system.

7. **Hyper-Personalized Cognitive Digital Twins:** Personalized systems remain separate from advanced LLM reasoning. The next step is privacy-preserving, edge-based cognitive twins that learn a user's physiological, emotional, and behavioral patterns, anticipate complex needs, and keep sensitive biometric and behavioral data strictly on-device.

Important deadlines (note these dates are tentative and might be adjusted closer to the conference):

- **Paper submission deadline: March 1, 2027**
- Reviews to authors: April 9, 2027
- Author rebuttal (optional): April 16, 2027
- Author notification: May 24, 2027
- Camera-ready submission: June 7, 2027
- Conference website open for delegate viewing: September 27, 2027
- Conference: October 4, 5, 6 and 14, 15, 2027 (Times will be announced later)

Submission and Review:

ICPRv-2027 will follow a single-blind review process. Authors **MUST** include their names and affiliations in the manuscript.

Paper Format and Length:

Two types of papers are accepted: short (8 pages) and long (15 pages). Short papers are intended for preliminary results and will not be included in the proceedings published by Springer. The format is Springer's LNCS style layout. Paper templates will be provided on the submission webpage.

We look forward to your participation in ICPRv-2027. **Contact:** icpr27pc@iapr.org

General Chairs: Robert Fisher, Tin Kam Ho, Larry O'Gorman, Lale Akarun

Program Chairs: Adel M. Alimi, David Doermann, Albert Ali Salah, Terrence Sim, Vitomir Struc, Guoying Zhao

Besides the novel research areas described above, ICPRv continues to welcome traditional ICPR topics as listed below:

3D vision	Efficient and scalable AI	Multimodal and multi-label learning
Action, behavior, and event recognition	Embodied vision	Natural language processing (NLP)
Affective computing	Event-based cameras	Neural networks
Audio and speech processing	Explainability and interpretability in pattern recognition	Object detection and recognition
Autonomous driving	Few-shot and zero-shot learning	Online, continual, and active learning
Bioinformatics	Generative models	Optimization methods
Biological vision models	Graph-based and Bayesian models	Photogrammetry and remote sensing
Biometrics and forensics	Human Computer Interaction	Physics-based vision and shape-from-X
Clustering and statistical models	Image analysis and recognition	Representation learning
Computational imaging	Image and video processing	Scene analysis and understanding
Computer aided diagnostics	Image and video synthesis and generation	Social signal processing
Computer analysis of human behavior (inc. face, body, pose, gestures, etc.)	Image detection and segmentation	Text detection and recognition
Computer graphics	Large Language Models (LLMs) and Vision Language Models (VLMs)	Theory of computer vision and pattern recognition
Computer vision for robotics and autonomous driving	Low-level vision	Transfer learning
Datasets and evaluation	Machine learning (inc. supervised, unsupervised, semi- and weakly-supervised, etc.)	Transparency, fairness, accountability, privacy, ethics
Deep learning	Medical and biomedical imaging, cell microscopy	Vision applications and systems
Document analysis and understanding	Motion and video analysis	Vision, language, and reasoning