

JEI Updates Research Topic Categories

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The scope of the *Journal of Electronic Imaging* (JEI) relates to the design, engineering, and applications of electronic imaging systems. Historically, the main topics included electronic imaging applications, machine learning and computer vision, image and video processing algorithms, and image and video communications. However, the research fields related to electronic imaging are highly dynamic and change very rapidly, especially in recent years when machine learning and artificial intelligence systems and algorithms became the de-facto standard of research in academia, as well as in high-tech industry.

Previously, our journal focused more on application-related innovation, for example, papers that focused on implementing and training a known neural network on a specific database, while trying to adjust it to solve a very specific type of classification application. However, during the last two to three years, JEI's scope was updated to include applied electronic imaging technology, such as papers dealing with adaptive image processing, compressive sensing, digital and computational photography, light field and integral imaging, optical data processing, spectral imaging, phase retrieval, polarimetric imaging, and super-resolution. The main purpose for these changes was to both fine tune the highly dynamic evolution of new research fields in electronic imaging and also to open JEI to submissions related to developing new areas, while focusing also on innovations related to algorithms and imaging hardware and not only remain with application-related innovations.

When submitting papers to JEI, authors will choose the high-level category suited for their research topic, which will include updated categories of:

- Image processing algorithms, image reconstruction/enhancement/restoration, image compression and super-resolution
- Video processing algorithms
- Mathematical, statistical, and perceptual modeling in electronic imaging
- Multimedia and imaging security
- Low power and light-weight image-processing approaches
- Electronic imaging applications that focus on biometrics, material inspection, underwater imaging, UAV, and robotic vision
- Machine learning and artificial intelligence
- Stereoscopic, multi-view, and 3D imaging
- Hardware and software systems related to image and video communications
- Computational imaging
- Computer vision. Focusing on image segmentation, object detection and recognition, image/video classification, object and video tracking, scene understanding, image and video understanding,
- Multi- and hyper-spectral imaging

The flowchart of processing a submitted paper starts by passing the paper through a senior editor, who performs a prescreening and verifies that the scope and the scientific content are satisfactory, and then the senior editor assigns an associate editor, who is responsible for handling the review process of the paper. The high-level category selection above will assist the journal to choose the right senior editor to handle the specific submission.

After choosing the high-level category the authors will be required to choose 1-3 keywords selected from a specified list including topics such as adaptive image processing, explainable artificial intelligence (XAI) algorithms, YOLO, transformer (as machine learning model), deep learning, neural networks, face and gesture recognition, human-vision-based computational models, image visualization, optical data processing, perceptual and cognitive issues in imaging, point cloud processing and analysis, virtual and augmented reality, topological issues, information hiding and steganography, image forensics, image fusion, and more. This selection will assist the senior editor to choose the right associate editor to handle the submitted paper.

We specifically encourage researchers working in fields related to computational imaging, optical data processing, super-resolution, and human vision-based computational models to submit their cutting-edge research to JEI to enrich the electronic imaging community by providing the community a concentrated collection of relevant and up-to-date explorations in the field.

We are grateful for all our authors, and we call new scientific communities related to the above specified topics and keywords to seriously consider submitting their high-quality scientific discoveries, innovations, and insights to JEI in the form of research papers and letters, scientific surveys and reviews as well as special sections on hot topics related to the scope of JEI.