Real-Time Image Processing and Deep Learning 2024 (DCS111)

Conference Chairs: Nasser Kehtarnavaz, The Univ. of Texas at Dallas (United States); Mukul V. Shirvaikar, The Univ. of Texas at Tyler (United States)

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This conference addresses the real-time aspects of image processing and real-time aspects of deep learning solutions in various imaging and vision applications. These aspects include algorithmic computational complexity, hardware implementation, and software optimization for the purpose of making an image processing or recognition system to operate in real-time for an application of interest. The SPIE Conference on Real-Time Image Processing and Deep learning is the continuation of the SPIE Conference on Real-Time Image and Video Processing that has been held for many years but is now expanded to include real-time deep learning for solving image recognition and identification problems. This conference, similar to the previous real-time image processing conferences, is intended to serve as a catalyst bringing together scientists and researchers from industry and academia working in real-time image processing and deep learning to present recent research results pertaining to real-time solutions to image processing and recognition applications.

Papers of interest include, but not limited to, the following general topics addressing real-time aspects of image processing and deep learning:

• real-time image and video processing algorithms
• computational efficiency aspects of image or video processing systems
• real-time hardware implementation of image or video processing on embedded processors
• computational efficiency aspects of training image recognition deep learning networks
• real-time operation of deep learning networks for image recognition/identification
• real-time hardware implementation of image recognition/identification deep learning networks on embedded processors
• applying machine learning techniques to improve image processing speeds.

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Present your research at SPIE Defense + Commercial Sensing

Below are abstract submission instructions, the accompanying submission agreement, conference presentation guidelines, and guidelines for publishing in the Proceedings of SPIE on the SPIE Digital Library. Submissions subject to chair approval.

Important dates

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<tr>
<th>Event</th>
<th>Due Date</th>
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<tr>
<td>Abstracts Due</td>
<td>11 October 23</td>
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<tr>
<td>Registration opens</td>
<td>8 January 24</td>
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<tr>
<td>Authors notified and program posts online</td>
<td>15 January 24</td>
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<tr>
<td>Submission system opens for manuscripts and poster PDFs*</td>
<td>19 February 24</td>
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<tr>
<td>Poster PDFs due for spie.org preview and publication</td>
<td>27 March 2024</td>
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<td>Manuscripts due</td>
<td>3 April 2024</td>
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<td>Advance upload deadline for oral presentation slides**</td>
<td>19 April 2024</td>
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*Contact author or speaker must register prior to uploading slides
**After this date slides must be uploaded onsite at Speaker Check-in

What you will need to submit

- **Title**
- **Author(s) information**
- **Speaker biography (1000-character max including spaces)**
- **Abstract for technical review (200-300 words; text only)**
- **Keywords used in search for your paper (optional)**
- **Check the individual conference call for papers for additional requirements (i.e. extended abstract PDF upload for review or instructions for award competitions)**

Note: Only original material should be submitted. Commercial papers, papers with no new research/development content, and papers with proprietary restrictions will not be accepted for presentation.

How to submit your abstract

- Visit the conference page: [www.spie.org/DCS111call](http://www.spie.org/DCS111call)
- You may submit more than one abstract but submit each abstract only once.
- Click the “Submit An Abstract” button on the conference page.
- Sign in to your SPIE account or create an account if you do not already have one.
- Follow the steps in the submission wizard until the submission process is completed.

If your submission is related to an application track below, indicate the appropriate track when prompted during the submission process.

Application tracks

- **AI/ML:** Papers that showcase the use of artificial intelligence, machine learning, and deep learning to create and implement intelligent systems
- **Microelectronics:** Papers that highlight advances in materials, design, fabrication, integration and applications of silicon or compound semiconductor microelectronics for use in the security and defense sectors and the commercial marketplace.
- **Sustainability:** Papers that feature solutions to achieving net zero energy consumption, waste, and carbon emissions within optics and photonics

Submission agreement

All presenting authors, including keynote, invited, oral, and poster presenters, agree to the following conditions by submitting an abstract:
- Register and pay the author registration fee
- Oral presenters: recording and publication of your onsite presentation (slides synced with voice) for publication in the Proceedings of SPIE in the SPIE Digital Library
- Poster presenters: submit a poster PDF by the advertised due dates for publication in the Proceedings of SPIE in the SPIE Digital Library; poster PDFs may also be published and viewable in the spie.org program during and immediately after the event. Each poster must have a unique presenter; one person may not present more than one poster
- Email messaging for the conference series
- Submit a manuscript by the advertised due date for publication in the Proceedings of SPIE in the SPIE Digital Library
- Obtain funding for registration fees, travel, and accommodations
- Attend the meeting
- Present at the scheduled time.

Review and program placement

- To ensure a high-quality conference, all submissions will be assessed by the conference chair/editor for technical merit and suitability of content
- Conference chairs/editors reserve the right to reject for presentation any paper that does not meet content or presentation expectations
- Final placement in an oral or poster session is subject to chair discretion

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Contact information

**QUESTIONS?**

Contact the coordinator listed in your spie.org account.

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For questions about publication or the SPIE Digital Library, contact your proceedings coordinator.

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