SPECIAL ISSUE on Generative AI for Computer Vision Applications:

A boon or a bane?

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DESCRIPTION

This special issue in **Open Computer Science (IF 2022: 1.5)** focuses on Generative AI for Computer Vision Applications.

Generative AI has been hailed as one of the significant advancements in the area of Artificial Intelligence and Deep Learning. The application areas of Generative AI are enormous which ranges from data collection to synthetic data generation. Specifically, they are widely used in computer vision applications which deals with images and videos. The generation process of synthetic images is so fascinating that the entertainment industry and the computer vision applications are completely entangled by Generative AI. However, there are serious concerns on the negative aspects of Generative AI too. Cyber security is under serious threat due to this technology. Forgeries and Human impersonation are continuously on the rise which affects the computer-based applications.

Currently, the challenge is to develop novel methods to make sure that Generative AI cannot be used in a negative way. Is it possible? The generative AI mostly revolve around deep neural architectures such as Generative Adversarial Networks (GAN), Diffusion models and Variational Autoencoders. How much can a researcher/scientist/engineer make changes in these architectures? This is a million-dollar question without any concrete answer. This special issue specially focuses on Generative AI applications with images and videos. It also focuses on novel developments/innovative ideas to increase the practical feasibility of the Generative AI.

Potential topics include but are not limited to the following:

- Novel Architectures of Generative AI for Computer Vision Applications
- Generative Adversarial Networks for image synthesis
- Diffusion models for computer vision applications
- Gaussian Mixture Models for object detection applications
- Variational Auto-Encoders (VAE) for sensitive analysis in synthetic images
- Deep convolutional architectures for synthetic data generation and detection
- GAN based audio synthesis from text data
- Transformers and Pre-trained models for Generative AI applications
- Novel loss functions for Generative AI architectures
- Vision Transformers for Generative AI

Authors are requested to submit their full revised papers complying the general scope of the journal. The submitted papers will undergo the standard peer-review process before they can be accepted. Notification of acceptance will be communicated as we progress with the review process.

HOW TO SUBMIT

Before submission authors should carefully read the Instruction for Authors, available online.

Manuscripts can be written in TeX, LaTeX (strongly recommended) - the journal's LATEX template. Please note that we do not accept papers in Plain TEX format. Text files can be also submitted as standard DOCUMENT (.DOC) which is acceptable if the submission in LATEX is not possible. For an initial submission, the authors are strongly advised to upload their entire manuscript, including tables and figures, as a single PDF file.

All submissions to the Special Issue must be made electronically via online submission system Editorial Manager: http://www.editorialmanager.com/opencs/

All manuscripts will undergo the standard peer-review process (single blind, at least two independent reviewers). When entering your submission via online submission system please choose the option "**SI: Generative AI for Computer Vision Applications** ".

Submission of a manuscript implies that the work described has not been published before and it is not under consideration for publication anywhere else.

The deadline for submissions is **April 30, 2024** but individual papers will be reviewed and published online on an ongoing basis.

Authors contributing to this Special issue will receive a -60% discount on Article Processing Charges. A few best articles will be published for free.

Contributors to the Special Issue will benefit from:

- Critical peer-review
- no space constraints
- quick online publication upon completing the publishing process (continuous publication model)
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We are looking forward to your submission!

In case of any questions please contact AssistantManagingEditor@degruyter.com