IEEE BITS | The Information Theory Magazine

Call for Papers

Special Issue on

'Information Processing in Arts and Humanities'

Recent years have witnessed the emergence of various sophisticated information processing tools -- including artificial intelligence ones -- that are capable of interrogating increasingly complex datasets in order to tackle challenges arising in various application domains.

With increasing digitization efforts adopted by libraries, museums, cultural heritage institutions, and other stakeholders -- using sophisticated imaging tools such as hyper-spectral imaging, computerized tomography, and many more -- there is now a unique opportunity to rely on state-of-the-art information processing tools to investigate scholarly and art work in order to generate new insights in the arts and humanities.

For example, such tools can help address high-profile questions in the arts and humanities; they can also support art conservation & preservation, and they can also lead to new ways to convey scholarship and art to the general public.

This special issue intends to showcase how information processing tools (broadly defined, hence encompassing artificial intelligence, signal and image processing powered by machine learning, and more) can be used to address challenges arising in the arts and humanities.

It also intends to bridge the gap between the information processing and the arts and humanities communities, by gathering representative contributions from interdisciplinary teams spanning both fields, in order to raise the visibility of this emerging interdisciplinary space.

We specifically encourage contributions from interdisciplinary teams composed of information processing researchers and arts or humanities scholars.

Topics of interest include (but are not limited to):

- Scientific imaging for arts, humanities, and cultural heritage, including hyper-spectral imaging, x-ray fluorescence, computerized tomography, remote sensing, and others.

- Information processing techniques to enrich and analyse digitised or born-digital datasets to answer new and established questions in the humanities, historical investigation, or art-historical investigation. Datasets of interest include, but are not limited to, texts, networks, audio, images, video, virtual, 3D and multi-dimensional

- Information processing tools to support art-historical analysis, art conservation & preservation, and art presentation, including style analysis, material analysis, virtual restoration, and visualisation of concealed features.

- Information processing tools to interrogate scholarly work, artwork, and cultural heritage collections at scale, including approaches to shape analysis in 2D and 3D, object matching, and object identification.

- General multimodal information processing tools capable of leveraging various data modalities to address outstanding challenges in the arts and humanities.

Both contributions involving the use of information processing techniques underpinned by data-driven methods or model-based ones are welcome.

Instructions:

Prospective authors are invited to submit a white paper, limited to four pages, containing manuscript title, motivation / significance, outline, and representative references. The white paper should also include the author list with contact information and short bios.

The articles must be of tutorial/overview/survey nature, in an accessible style to a broad audience, and have significant relevance to the scope of the Special Issue. The articles should not have been published or be under review elsewhere. For submission guidelines, see the Information for Authors at xxx.

Full articles will be invited based on the review of white papers.

Relevant Dates:

· White paper submission: 4th February 2022
· Manuscript invitation: 25th February 2022
· Manuscript submission: 29th April 2022
· Manuscript reviews: 27th May 2022
· Manuscript final version: 1st July 2022
· Special Issue Publication: September / October 2022

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