Editorial

With every issue, the *Journal on Computing and Cultural Heritage* implicitly—or sometimes, explicitly—asks the question: How can the application of computational technology advance our analysis, understanding, and interpretation of cultural heritage? And how do problems in cultural heritage provide a rich environment within which to advance the computational technologies? Both perspectives drawn on disciplinary and multidisciplinary traditions, offer unusual opportunities to consider integrated approaches and offer new insights into both the science and technology domains.

In this issue, the authors report research results on computational tools to achieve a finer level of granularity or improve display, increase efficiency in otherwise compute- and data-intensive processes, and reduce bottlenecks in the workflow that may develop during the analysis of artifacts. Reichinger, Maierhofer, and Purgathofer describe a system for creating three-dimensional representations of two-dimensional art to enable the visually impaired to experience visual objects at the level of the brush stroke. Pintus, Gobbetti, and Callieri describe an efficient, scalable method for conveying information about color in the representation of complex, data-intensive imaging with applications to three-dimensional cultural heritage objects. Finally, Funkhouser, Shin, Toler-Franklin, Garcia-Castaneda, Brown, Dobkin, Rusinkiewicz, and Weyrich outline a machine-learning approach to the reconstruction of fractured archaeological remains by reducing the enormous collections of potentially matched fragments to those that are more likely to be related.

Collectively, these articles illustrate the diversity and reach of the computational technologies, taking advantage of techniques in scanning, imaging, and artificial intelligence to provide challenging testbeds for advancing computer science. At the same time, the range of cultural heritage concerns is equally broad, spanning public access and interpretation as well as the grueling, labor-intensive work of recovery, capture, analysis, and eventually scholarly interpretation that typically occurs in the field or in laboratories behind closed doors. Although different and equally important, the articles are unified by the underlying assumption that we do this work to increase access to the material whether for scholarly or public interpretation. It is customary in preservation circles to acknowledge that preservation without access is meaningless. The articles in this issue provide a window into how computational technologies help to provide more material for more of us to use and enjoy.

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