

ACM TOMM Call For Papers

Special Issue on

Big Data, Machine Learning and AI Technologies for Art and Design

I. Scope

Since the dawn of artificial intelligence and machine learning, scientists, engineers and developers have been exploring the machine's ability to generate human-level creative products such as poetry, stories, jokes, music, paintings, etc., as well as creative problem solving. Art and design has always existed in a complex, symbiotic and continually evolving relationship with the technological capabilities of a culture. Those capabilities constrain the art and design that are produced, and inform the way art and design are perceived and understood by their audience. Like the invention of applied pigments, the printing press, photography, and computers, the innovations from big data, machine learning and artificial intelligence could profoundly facilitate the artists and designers to produce a new piece and even a novel form of art and design. Controversially, it also challenges the artists and designers to question whether a visual piece is still recognised as an artwork or design if it is entirely produced by the machines without any human involvement in the future.

As with these earlier innovations, it will ultimately transform art and design society in ways that are hard to imagine from today's vantage point. Before concluding if these innovations are friends or enemies to artists or designers, in the nearer term, it is worth for us to expand, understand and witness our imaginations with hands-on experiments to explore how big data, machine learning and artificial intelligence technologies from multimedia communities may facilitate, integrate and complement the visual creations from the art and design communities

This special issue of ACM Transactions on Multimedia Computing, Communications and Applications provides an opportunity to attract and bring together multimedia computing, big data analytics and systems, machine and deep learning, artificial intelligence, computer graphics researchers along with visual artists, designers and practitioners with diverse backgrounds to contribute papers on theoretical, methodological and practical issues on art and design creation and evaluation related big data, machine learning and AI. Topics may include, but are not limited to:

- Multimedia technologies for art of design;
- Multimedia computing for artistic and aesthetic evaluations;
- Big data analytics and systems for art or design;
- Big data of art or design datasets and mining methods for creativity detections;
- Machine or deep learning techniques for recognizing and understanding art or design;
- Artificial intelligence for art or design creation;
- AI-assisted or human-AI co-creation technologies for arts and design;
- Evolutionary or Generative art and design;
- Generating or integrating art or design through big data, machine learning and AI;
- Example art or design works, applications and services using big data, machine learning and AI technologies.

II. Important Dates

1. Deadline for manuscript submission: **Aug. 31, 2018**
2. Notification of acceptance: **Sep. 15, 2018**
3. Camera-ready final paper due: **Nov. 15, 2018**
4. Publication date: **Jan., 2019 (Tentative)**

The review process will comply with the standard review process of the ACM Transactions on Multimedia Computing, Communications and Applications (ACM TOMM) journal. Each paper will receive at least three reviews from experts in the field.

III. Submission Instructions:

Prospective authors are invited to submit their manuscripts electronically after the “open for submissions” date, adhering to the ACM Transactions on Multimedia Computing, Communications and Applications (ACM TOMM) journal guidelines (see <http://tomm.acm.org/authors.cfm>). **Please submit your papers through the ACM online system (<https://mc.manuscriptcentral.com/tomm>) and be sure to select the special issue according to the relevant instructions.** Manuscripts should not be published or currently submitted for publication elsewhere. Submitted manuscripts should not have been published previously, nor be under consideration for publication elsewhere. If the submission is an extended work of a previously published conference paper, please include the original work and a cover letter describing the changes that have been made. According to ACM TOMM publication policy previously published conference papers can be eligible for publication provided that at least 25% new material is included in the journal version.

IV. Guest Editors

1. **Prof. James She**, Hong Kong Uni. of Sci. and Tech., Hong Kong (eejames@ust.hk)
2. **Dr. Mei Tao**, JD AI Research, China (tmei@jd.com)
3. **Prof. Ying-Qing Xu**, Academy of Arts & Design, Tsinghua University, China (yqxu@tsinghua.edu.cn)
4. **Prof. Chee Onn Wong**, Multimedia University, Malaysia, (cwong@mmu.edu.my)
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6. **Prof. Eugene Ch'ng**, NVIDIA Technology Center, University of Nottingham Ningbo, China (eugene.chng@nottingham.edu.cn)