Computational Creativity Support: Using Algorithms and Machine Learning to Help People Be More Creative

Abstract
Amateurs and professionals in diverse artistic disciplines already use computers every day to support their creative processes. Musicians record to digital studios, photographers process digital images, visual and industrial designers explore virtual prototypes, and writers create and distribute their work digitally. However, recent advances in signal processing, natural language processing, and machine learning will offer unprecedented expansion of the capabilities of creativity support tools. Computational techniques will allow users to explore new creative disciplines, to leverage existing media in the creation of new media, and to harness the power of online communities toward collaborative creative projects.

The one-day workshop described here will bring together participants from diverse backgrounds in HCI, design, art, machine-learning, and algorithms to facilitate the advancement of novel creativity support tools. Throughout the workshop, participants will be encouraged to present forward-looking concepts requiring complementary skill sets to pursue further. Discussions might be seeded, for example, by a description of an algorithmic technique that requires user-experience-design expertise to develop into an interactive tool, or by a vision of an end-user experience that can be realized with data-processing techniques that may be outside of the presenter’s expertise.

Participation is encouraged even if authors have not previously published in the creativity-support domain. Contributions may come from designers whose methodologies are appropriate for creativity tools, from machine learning researchers working on algorithms that apply to creative media processing, from artists seeking to expand their tool sets, or from usability experts with insights that apply to the evaluation of creativity support systems.