

Computational Creativity

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Creativity is a fundamental trait of intelligence and one of the most remarkable characteristics of the human mind. Its study has been, since a long time ago, a challenge for many scientists and researchers, particularly in areas such as Philosophy, Cognitive Science, Psychology and Education. It is not a surprise, therefore, that a growing community of Artificial Intelligence researchers is deserving serious attention to the study and proposal of abstract explanation theories and adequate computational models of creativity.

This interest comes from the belief that computational creative systems are potentially effective in a wide range of artistic, technical and scientific domains where innovation is a key issue. Scientific discovery, theorem proving and technical design are just a few examples of application problems suitable for them. Also, the development of computational tools and environments that might help humans being creative is an important motivation for some of the work in the area. The multidisciplinary nature of the research is also an interesting factor of attraction. Moreover, this endeavour may contribute to the overall understanding of the mechanisms behind creativity.

This Tutorial is intended to present an overview of current research on Computational Creativity. It will include an introduction to the basic concepts and terminology of the area, as well as to formal and computational models of creativity. A discussion on the main current challenges and application domains will also be included.