GAs and Evolutionary Design in Architectural Heritage-The Case of Islamic Architecture

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Abstract

The cosmological nature of Islamic architecture makes it a useful case study for the capability of the adaptation, assimilation and accommodation with the development of evolutionary algorithms and their applications in architectural design. Genetic algorithm derives its structure from the observation of nature. Since algorithmic art consists of generation of images on the basis of algorithms, algorithms can be viewed as a notation, and notation is something that music has but visual artefacts in general miss. This paper aims to discover the role of evolutionary algorithms in historical Islamic architecture. Also, we shall try to investigate the way in which the future development could occur not only through the discovery of new facts or theories, but also through the rise and dissemination of new visions having different explanation of Islamic architecture that considers it as a result of serious application of formation through evolutionary genetic algorithms.