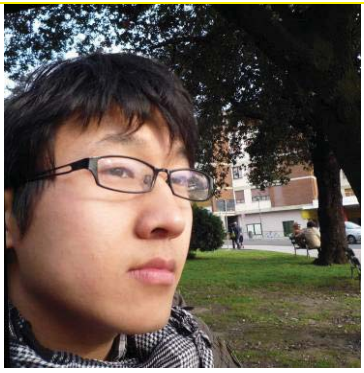
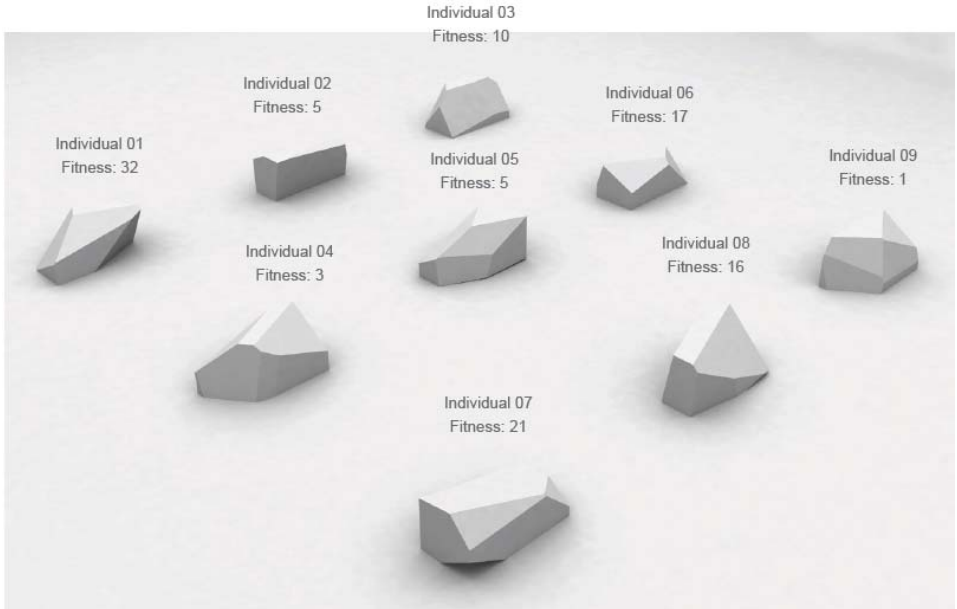
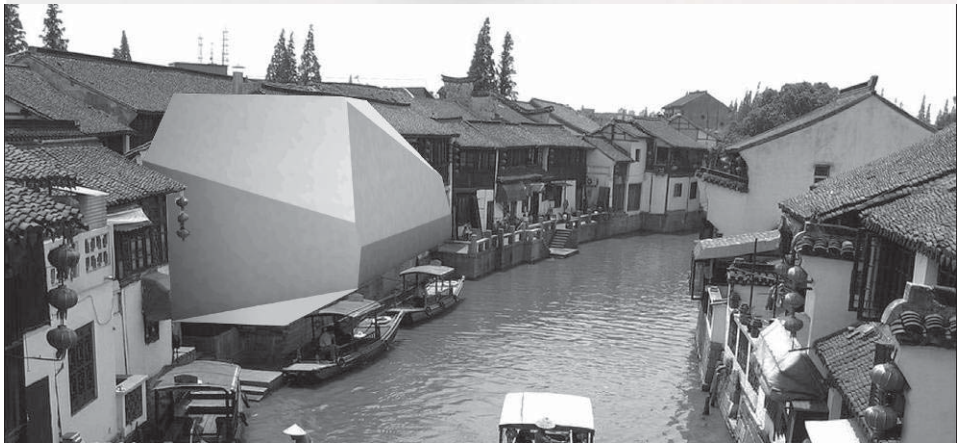
Yibo Xu

Paper: **Design Architecture By Genetic Algorithm**



Abstract:
This paper is aimed to *apply genetic algorithms in creating architecture forms and establishing a prototype system of such designs.* It is divided into four parts. Firstly, the introduction of genetic algorithms and the aims are presented. Secondly, an experiment on designing forms for an architecture project by genetic algorithms is brought forward. The methods and processes would be listed below. It proves that genetic algorithms could not only find the optimized structure for the engineers but also search the 'best' forms for the architects. Thirdly, according to the experiment, a system of how to imply genetic algorithms in designing architectural form is established and explained in detail. This system could be expanded by anyone who could translate the real limitations into genetic representation and fitness functions (modules). Finally, some discussions and conclusions are brought forward.





Topic: Architecture
Authors: Yibo, Xu
Master of Landscape Architecture
Department of Architecture and Planning
University Politecnico di Milano
E-mail Address: xybvsxyb@hotmail.com

References:
[1]. Holland, J. H., (1973).Genetic lgorithms and the optimal allocations of trials. SIAM Journalof Computing 2:2, 88-105.
[2]. Holland, J. H., (1975). Adaptation in Natural and Artificial Systems. The University of Michigan Press, Ann Arbor……
[14]. Kostas Terzidis (2006), Algorithmic Architecture. Elsevier Science & Technology Books. ISBN-13: 9780750667258.

Contact: 3275331920
Email or address: Via Ampere 3, 20133

Keywords:
Genetic Algorithm, Architecture, Tradition and Modernity.