

以退火神經網路作建築空間配置

葉怡成, 李振民

資訊管理學系

資訊學院

icyeh@chu.edu.tw

摘要

Architecture layout design is an important design activity. The impact of good layout practices on money and time saving becomes more obvious in complex architecture. In this study, the layout problem was formulated as a combinatorial optimization problem. An annealed neural network model, which merges many features of simulated annealing and Hopfield neural networks, was employed to solve the problem. A case study of a hospital building with 28 facilities was employed to illustrate the practical applications. In addition, the effects of various parameters in annealed neural network were examined. Research reported in this paper leads to the following conclusions. (1) An annealed neural network model is rather efficient in solving the architecture layout problem. (2) Whatever the combinations of the parameters are, the difference of quality between the optimum solutions among 30 feasible solutions gotten from a random initial state is rather small.

關鍵字：architecture, layout, annealed neural network, optimization.