

Abstract of Thesis presented to UFF as a partial fulfillment of the requirements for the degree of Master of Science (M.Sc.)

## Incorporating Data Mining Techniques into the GRASP Metaheuristic

Marcos Henrique Fonseca Ribeiro

November/2005

Advisors: Alexandre Plastino de Carvalho and Simone de Lima Martins

Department: Computer Science

In this work, we investigate the efficiency of incorporating Data Mining techniques to the GRASP metaheuristic in order to introduce memory to this strategy, generating a hybrid version of GRASP, called GRASP-MD.

The Set Packing Problem (SPP) was used to validate this proposal and different versions of the hybrid metaheuristic were tested and analyzed.

Computational experiments, comparing traditional GRASP and different hybrid approaches, showed that employing patterns mined from an elite set of solutions conducted to better results. Besides, additional performance experiments evidenced that data mining strategies accelerate the process of finding good solutions.