

Integer-linear Formulation for the DAGs-packing Problem

R`ibia Santos, DMT-UFMS, rubia@dmf.ufms.br

Rodolfo Azevedo, IC-UNICAMP, rodolfo@ic.unicamp.br

Ricardo Santos, FACOM-UFMS, ricardo@facom.ufms.br

In this work we present the DAGs-Packing Problem and its impact on the compiler and processor design areas. We propose an ILP formulation based on the Strip Packing Program and we implement a set of heuristics to solve the problem. In our formulation, DAGs are items to be packed and the set of processing elements is the strip. We compare our solution to three other heuristic algorithms for the same problem. The results show that our algorithm outperforms other heuristics in 80% of the instances.