

The Utilization of Particle Swarm Optimization Method to Solve Nurse Scheduling Problem

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Abstract : The allocation of working schedule especially for shift environment is hard to fulfill its fairness among them. In the case of nurse scheduling, to set up the working time table for them is time consuming and complicated, which consider many factors including rules, regulation and human factor. The scenario is more complicated since most nurses are women which have personnel constraints and maternity leave factors. The undesirable schedule can affect the nurse productivity, social life and the absenteeism can significantly as well affect patient's life. This paper aimed to enhance the scheduling process by utilizing the particle swarm optimization in order to solve nurse scheduling problem. The result shows that the generated multiple initial schedule is fulfilled the requirements and produces the lowest cost of constraint violation.

Keywords : nurse scheduling, particle swarm optimisation, nurse rostering, hard and soft constraint

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