

Evolving Software Assessment and Certification Models Using Ant Colony Optimization Algorithm

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Abstract : Recently, software quality issues have come to be seen as important subject as we see an enormous growth of agencies involved in software industries. However, these agencies cannot guarantee the quality of their products, thus leaving users in uncertainties. Software certification is the extension of quality by means that quality needs to be measured prior to certification granting process. This research participates in solving the problem of software assessment by proposing a model for assessment and certification of software product that uses a fuzzy inference engine to integrate both of process-driven and application-driven quality assurance strategies. The key idea of the on hand model is to improve the compactness and the interpretability of the model's fuzzy rules via employing an ant colony optimization algorithm (ACO), which tries to find good rules description by dint of compound rules initially expressed with traditional single rules. The model has been tested by case study and the results have demonstrated feasibility and practicability of the model in a real environment.

Keywords : software quality, quality assurance, software certification model, software assessment

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