

Insights on the artificial generation of instances of combinatorial optimization problems

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Entrada libre hasta completar el aforo

Resumen:

In the field of evolutionary computation, it is common to use benchmarks of instances of a given problem in order to carry out a performance evaluation of existing and newly developed algorithms. When the final goal is to solve specific real-world problems, real instances are used to perform such comparisons, and, thus, we are not interested in an extensive performance evaluation. However, when the objective of the research is to contribute with methodological developments, then large benchmarks of instances are needed in order to evaluate the efficiency of the proposed algorithm under different scenarios. At this point, it is a usual practice, based on the knowledge of the problem to create new "challenging" instances artificially. In this sense, a recurrent option is to generate instances by sampling their parameters uniformly at random (u.a.r.) in some ranges. Taking this assumption as starting point for the talk, we will present a series of discoveries regarding the generation of random instances for a number of permutation-based combinatorial optimization problems.

Sobre Josu Ceberio Uribe:

Ingeniero en informática y doctor en informática, por la Universidad del País Vasco UPV/EHU en 2009 y 2014 respectivamente. Desde Octubre de 2017, Profesor Adjunto del Departamento de Ciencia de la Computación e Inteligencia Artificial. Desde el año 2010, forma parte del grupo de investigación Intelligent Systems Group, ha participado en más de 7 proyectos y contratos, Su interés de centra en las áreas de optimización combinatoria tanto desde el enfoque metodológico como el aplicado. En optimización combinatoria, ha trabajado en el ámbito de los algoritmos meta-heurísticos, y principalmente en Algoritmos de Estimación de Distribuciones.