



**UNIVERSIDAD
DE GRANADA**

TSCAO

MÁSTER CIENCIA DE DATOS E INGENIERÍA DE COMPUTADORES

METAHEURÍSTICAS

TRABAJO FINAL

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**ESCUELA TÉCNICA SUPERIOR DE INGENIERÍAS INFORMÁTICA Y DE
TELECOMUNICACIÓN**

CURSO 2020-2021

1. Maximum Diversity Problem (MD)

1.1. Búsqueda bibliográfica

- Lopez-Pires, Fabio Vera, Katherine Baran, Benjamin Sandoya, Fernando. (2017). Multi-Objective Maximum Diversity Problem. 10.1109/CLEI.2017.8226423.
- Marti, Rafael Gallego, Micael Duarte, Abraham. (2010). A branch and bound algorithm for the maximum diversity problem. European Journal of Operational Research. 200. 36-44. 10.1016/j.ejor.2008.12.023.
- Aringhieri, Roberto Cordone, Roberto. (2008). Tabu Search versus GRASP for the maximum diversity problem. 4OR. 6. 10.1007/s10288-007-0033-9.
- Parreño, Francisco Álvarez-Valdés, Ramón Marti, Rafael. (2020). Measuring Diversity. A review and an empirical analysis. European Journal of Operational Research. 289. 10.1016/j.ejor.2020.07.053.
- Marti, Rafael Martínez-Gavara, Anna Sánchez-Oro, Jesús. (2021). The capacitated dispersion problem: an optimization model and a memetic algorithm. Memetic Computing. 13. 10.1007/s12293-020-00318-1.
- Marti, Rafael Gallego, Micael Duarte, Abraham G. Pardo, Eduardo. (2013). Heuristics and metaheuristics for the maximum diversity problem. Journal of Heuristics - HEURISTICS. 19. 1-25. 10.1007/s10732-011-9172-4.
- Silva, Geiza Ochi, Luiz Martins, Simone. (2004). Experimental Comparison of Greedy Randomized Adaptive Search Procedures for the Maximum Diversity Problem. Lecture Notes on Computer Science. 3059. 498-512. 10.1007/978-3-540-24838-5_37.Zhou, YangmingHao, Jin – KaoDuval, Beatrice.(2017).Opposition – BasedMemeticSearchfortheMaximum Diversity Problem. 10.1109/TEVC.2017.2674800.
- Gallego, Micael Duarte, Abraham Laguna, Manuel Marti, Rafael. (2009). Hybrid heuristics for the maximum diversity problem. Computational Optimization and Applications. 44. 411-426. 10.1007/s10589-007-9161-6.
- Silva, Geiza Andrade, Marcos Ochi, Luiz Martins, Simone Plastino, Alexandre. (2007). New heuristics for the maximum diversity problem. J. Heuristics. 13. 315-336. 10.1007/s10732-007-9010-x.
- Santos, L. Ribeiro, Marcos Plastino, Alexandre Martins, Simone. (2005). A Hybrid GRASP with Data Mining for the Maximum Diversity Problem. Lecture Notes in Computer Science. 3636. 116-127. 10.1007/11546245_11.Zhou, YalanYin, JianZhang, Yunong.(2009).CompetitiveHopfield Neural Network for the Maximum Diversity Problem. IEEETransactionson.39.1048 – 1066.10.1109/TSMCB.2008.2010220.
- Andrade, Marcos Andrade, Paulo Martins, Simone Plastino, Alexandre. (2005). GRASP with Path-Relinking for the Maximum Diversity Problem. Lecture Notes in Computer Science. 3503. 558-569. 10.1007/11427186_48.Lozano, ManuelMolina, DanielGarcía – Martínez, C..(2011).Iteratedgreedyforthemaximumdiversityproblem.EuropeanJournalofOperationalResearch.38.10.1016/j.ejor.2011.04.018.

1.2. Pseudocódigos**1.3. Operador de vecindario****1.4. Algoritmo de búsqueda local****1.5. Algoritmo genético****2. Multidimensional two-way number partitioning problem (M2NP)****2.1. Búsqueda bibliográfica**

- Kojić, Jelena. (2010). Integer linear programming model for multidimensional two-way number partitioning problem. *Computers Mathematics with Applications*. 60. 2302-2308. 10.1016/j.camwa.2010.08.024.
- Alexandre Frias Faria, Sérgio Ricardo de Souza, Elisangela Martins de Sá, A mixed-integer linear programming model to solve the Multidimensional Multi-Way Number Partitioning Problem, *Computers Operations Research*, Volume 127, 2021, 105133, ISSN 0305-0548.
- Santucci, Valentino Baiocchi, Marco Di Bari, Gabriele Milani, Alfredo. (2019). A Binary Algebraic Differential Evolution for the MultiDimensional Two-Way Number Partitioning Problem. 10.1007/978-3-030-16711-0_2. *Hacıbeyoglu, Mehmet Alaykiran, Kemal ACILAR, A.M. WayNumberPartitioningProblem. Arabian Journal for Science and Engineering*. 43.10.1007/s13369-018-3155-9.
- Jozef Kratica, Jelena Kojić, Aleksandar Savić, Two metaheuristic approaches for solving multidimensional two-way number partitioning problem, *Computers Operations Research*, Volume 46, 2014, Pages 59-68, ISSN 0305-0548,
- Pop, Petrica Matei, Oliviu. (2013). A Genetic Algorithm Approach for the Multidimensional Two-Way Number Partitioning Problem. 7997. 81-86. 10.1007/978-3-642-44973-4_10. *Petrică C. Pop, Oliviu Matei, A metaheuristic approach for solving the multidimensional multi-way number partitioning problem, Applied Mathematical Modelling*, Volume 37, Issue 22, 2013, Pages 9191-9202, ISSN 0307-904X,
- Vera, J. Macías, Rodrigo Heiser, Willem. (2009). A Latent Class Multidimensional Scaling Model for Two-Way One-Mode Continuous Rating Dissimilarity Data. *Psychometrika*. 74. 297-315. 10.1007/s11336-008-9104-x.