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**Resource Allocation via Integer Programming**

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This paper takes a Binary Integer Programming (BIP) approach to solving the general resource allocation problem faced in various industries such as manufacturing in production planning and finance in portfolio selection. The goal is optimizing the allocation of finite resources to specific tasks to minimize cost / maximize profit. This problem is widely approached using Linear Programming as such, the challenge is tackling the same problem with a narrower purview of BIP which has been practiced far less often in literature as it constricts the problem to binary variables. As a paradigm in this general scope, the focus is the 'Student Project Allocation’ problem faced ubiquitously in higher education institutions whereby individual projects are often a graduation requirement. Firstly, this problem considers solely the preferences of the students and later incorporates the lecturer's capacities of supervision. This paper shows that utilization of Integer Programming performs faster and more efficiently, yielding higher rates of both student and lecturer satisfaction compared to existing methods used to solve resource allocation problems such as gradient descent algorithms, the Hungarian method, and complete enumeration. Finally, this paper highlights the applications of the aforementioned method in other industries and the challenges with this approach.