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# An Optimization Model for Stacking

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**Abstract:** During this presentation the mathematical formulation of a basic stacking optimization model with known block arrival and departure moments will be developed. This model is based on the a priori construction of admissible stacks, and minimizes the number of extra storage slots required to place all blocks. The model is a binary-programming model. This type of model is not guaranteed to solve in polynomial time. Nevertheless, optimal solutions have been found for model instances with up to 150 blocks, where the measured solution time was in the order of minutes. Next, some extensions of the problem together with the corresponding formulation are presented in detail. The talk ends with an overview of potential model extensions that have not yet been implemented.