

## Solving an unconstrained minimization problem using the Hybrid Modified Accelerated Gradient Method

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**Abstract.** In this paper we discuss the hybrid type of accelerated gradient method for solving unconstrained optimization problems. There are many methods in the contemporary literature developed for solving this problem. Herein, a special attention will be paid to the methods that were created as a modification of quasi-Newton's method using their hybrid versions. We specially study convergence features of the Hybrid Modified Accelerated Gradient Method, which presents a hybrid variant of the Modified Accelerated Gradient Method. This method was tested for three main properties: the number of iterations, the CPU time and the number of function evaluations. Numerical outcomes confirmed better performance profiles in favor to the derived hybrid model when compared to its forerunner.

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**Keywords:** Line search; gradient descent methods; quasi Newton method; convergence rate; hybrid model.

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