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Cuckoo Search Optimization for Black Scholes Option Pricing

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Abstract : Black Scholes option pricing model is one of the most important concepts in modern world of computational finance. However, its practical use can be challenging as one of the input parameters must be estimated; implied volatility of the underlying security. The more precisely these values are estimated, the more accurate their corresponding estimates of theoretical option prices would be. Here, we present a novel model based on Cuckoo Search Optimization (CS) which finds more precise estimates of implied volatility than Particle Swarm Optimization (PSO) and Genetic Algorithm (GA).

Keywords : black scholes model, cuckoo search optimization, particle swarm optimization, genetic algorithm

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