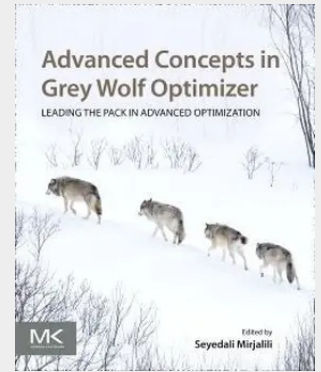


Advanced Concepts in Grey Wolf Optimizer

Leading the Pack in Advanced Optimization

Advanced Concepts in Grey Wolf Optimizer: Leading the Pack in Advanced Optimization provides in-depth coverage of recent theoretical advancements in GWO, as well as advanced methods to handle issues such as multiple objectives, constraints, binary variables, large search spaces, dynamic goals, and uncertain data. This book assumes familiarity with optimization fundamentals and therefore dives directly into multi-objective, constrained, binary, and dynamic-environment variants, as well as GWO-ML/LLM hybrids. Extensive real-world case studies in areas such as energy systems, supply-chain design, LLM fine-tuning, robotics, and finance ensure that both scholars and engineers can translate the material into deployable solutions. The authors present important new theories, hybrids with Machine Learning/Deep Learning, and hybrid methods that increase GWO's performance. The use of generative AI to improve this algorithm and make it more generic is also explored, along with diverse applications across multiple fields to illustrate the practical utility and versatility of the methods presented. Written by some of the world's most highly cited researchers in the field of artificial intelligence, algorithms, and machine learning, the book serves as an advanced resource for researchers and practitioners interested in applying and developing the Grey Wolf Optimizer.

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