

Virtues of Optimizer EVOP

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For Device
& Systems
Designers

EVOP --- Evolutionary Operation



- A number of algorithms are available in the name of EVOP. Search in Google or Metacrawler.
- But this EVOP is unique in its speed, accuracy and flexibility. It appears EVOP is the 'silver bullet' that has succeeded in slaying the 'dragon' of dimensionality in multiple minima bound objective functions. Nothing comparable is available to date.

Features of EVOP



- Capability to locate directly with high probability the global minimum.
- Capability to deal with possible finite number of discontinuities in nonlinear objective and constraining functions.
- Ability to minimize directly an objective function without requiring information on gradient or subgradient.

Features of EVOP (cont)



- Ability to deal with objective functions having a mix of continuous, discrete and integer variables as arguments.
- No requirement for scaling of objective and constraining functions.
- Capability for optimization even when there are more than one of the above difficulties are simultaneously present.

Features of EVOP (cont)



- Facility for automatic restarts to check whether the previously obtained minimum is the global minimum.
- Capability to optimize physical systems in real-time or accelerated time; eg optimal adaptive control of physical systems.
- Objective function is never evaluated in the infeasible region; as a consequence the safety of the

Features of EVOP (cont)

plant or system is not in jeopardy at any time because of optimization.



- Gradient or sub-gradient is not required, thus ensuring that noise in measurement will not be accentuated to adversely effect the optimization process.
- Inherent ability to cope with realistic hard time constraint requirement imposed by real-time.

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