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Title: Understanding Differential Evolution: A Poisson Law Derived from Population Interaction Network

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- We propose a general population interaction network (PIN) to analysis the performance of population-based evolutionary algorithms.
- The relationship constituted by populations of differential evolution (DE) algorithm during evolutionary search is displayed via complex networks.
- Statistical fitting results show a Passion law is derived from the PIN of DE.
- Parameter sensitivities are also studied to give some general conclusions.

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