

Parent Selection

Fitness-Proportionate Selection

$P(x) = \text{fitness value of } x / \text{sum of all fitness values}$

Rank selection

↳ give a ranking to each fitness value and compare based on that and not absolute value.

$P(x) = \text{category of } x / \text{sum of categories}$

Tournament selection

↳ pick k arbitrary individuals and make them compete. Larger k increases the selection pressure. Can choose if we want to allow for replacement and if we always pick the best (deterministic) or pick based on a probability p .

with replacement → lower pressure

Replacement

$(\mu, \lambda) \rightarrow (My, Lambda)$ -selection

↳ choose the best offspring from the set of children

Best candidates can be LOST

$(\mu + \lambda) \rightarrow (My + Lambda)$ -selection

↳ choose the best individual from the set of children and parents.

Elitist.