ConvergenceInProbability
Termination condition

binary

Description

This termination condition is designed for EDA algorithms operating on vector of probabilities. Usually the probabilities convergence to 1.0 or 0.0. Depends if the best value is 1 or 0 on that gene. If the probability values are close enough it is possible to finish the work. It will stop algorithm according to the formula:

$$isSatisfied = \begin{cases} true \ if \ p < p_{min} \ and \ p > p_{max} \\ false \ if \ p_{min} < p < p_{max} \end{cases}$$

Where

- p - all probabilities
- p_{min} - minimum value that is accepted for the solution, usually close to 0 representing high probability to get 0
- p_{max} - maximum value that is accepted for the solution, usually close to 1 representing high probability to get 1

Parameters

1. MaxValue - above that value probability is satisfied
2. MinValue - below that value probability is satisfied

Pseudocode

```
For each p in Probabilities P
     If p > MinValue and p < MaxValue
          Return false
Return true
```

Implementation details

Source codes with explanations.

References