Supposed Framework for Task Arrangement and Execution

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1 Reviews

How to deal with the tasks?

We can adapt several representations to the tasks by using various algorithms based on different data structures. The idea, we often bring about easily, is to connect or divide the tasks into an entity or several groups.

k-means

Within clustering algorithm, k-means is efficient and gurantees to converge.

It depends that what constitutes good clusters subjecting to various criteria, both ad-hoc or systematic.

simple k-means is shown as algorithm 1

Yinyang k-means

Yinyang k-means was proposed @ICML in 2015, optimizes *Assignment* process of algorithm 1 mainly.

Algorithm 1: Jejune K-means: Centroid-based k-means

Data: k, Points, initial centroids
Result: Clusters: C
begin
  Initialization
  begin
    centroids $\leftarrow$ initial centroids
    C, result = **Assginment**(*points*, *centroids*)
  end
  while *result not converges* **do**
    for *Points in cluster* $C_i,\ i = 1, 2, 3, ..., k$ **do**
      Calculate New Centroid $centroids_i$ of $C_i,\ i = 1, 2, 3, ..., k$
    end
    C, result = **Assginment**(*points*, *centroids*)
    if *Assginment not change* **then**
      result converges
    end
  end
  return *C*
end

Assignment(points,centroids)
begin
  for *p in Points* **do**
    Calculate Distance between p and $centroids_i,\ i = 1, 2, 3, ..., k$
    Store Nearest centroid c^* of p
  end
  assign p_i to respective c_i^* in C **if** *assignment is stable* **then**
    return *C, converge*
  end
  return *C, not converge*
end