Linde–Buzo–Gray algorithm

From Wikipedia, the free encyclopedia

This article **relies too much on references to primary sources**. Please improve this article by adding secondary or tertiary sources. *(June 2012)*

The **Linde–Buzo–Gray algorithm** (introduced by Yoseph Linde, Andrés Buzo and Robert M. Gray in 1980) is a vector quantization algorithm to derive a good codebook.

It is similar to the k-means method in data clustering.

The algorithm [edit]

At each iteration, each vector is split into two new vectors.

- A initial state: centroid of the training sequence;
- B initial estimation #1: code book of size 2;
- C final estimation after LGA: Optimal code book with 2 vectors;
- D initial estimation #2: code book of size 4;
- E final estimation after LGA: Optimal code book with 4 vectors;

References [edit]

- The original paper describing the algorithm, as an extension to Lloyd's algorithm:
  - Linde, Y.; Buzo, A.; Gray, R. (1980). "An Algorithm for Vector Quantizer Design". *IEEE Transactions on Communications* **28**: 84. doi:10.1109/TCOM.1980.1094577.

External links [edit]

- http://www.data-compression.com/vq.html#lbg

This algorithms or data structures-related article is a stub. You can help Wikipedia by expanding it.

Categories: Data clustering algorithms | Machine learning algorithms | Artificial neural networks | Algorithms and data structures stubs | Computer science stubs