**Compatibility analysis of stat-of-the-art proposals with our proposal for K-means algorithm:**

| Paper | Contributions | | Compatibility | | | |
|---|---|---|---|---|---|---|
| | Proposal | SIMD-computations considered? | SIMD-compression | Block-data-layout + optimized loop-traversal | In-register ArgMin computation | Approximate distance |
| **[1]** | Improved seeding algorithm | No | Yes | Yes | Yes | Yes |
| **[2]** | Heterogeneous computation: labeling on GPU, cluster update on CPU | Yes | Yes | Yes | Yes | Yes |
| **PAMI02** | Use of KD-tree to filter out a candidate. | No | Yes | No | No | Yes |
| **[11]** | Centroid oriented labeling, Heterogeneous computation: labeling on KNC, cluster update on CPU | Yes | Yes | No | No | Yes |
| **Hamerly2010** | Avoids distance computations using distance bounds and triangle inequality | No | Yes | No | No | Yes |
| **Cui14** | Use of MapReduce, iteration dependence is reduced using probability sampling | No | Yes | Yes | Yes | Yes |
| **Wang13** | Approximation using binary-tree based cluster closure | No | Yes | No | No | Yes |
| **Wang15** | Encode high dimensional data points | No | Yes | Yes | Yes | Yes |

**Reference:**


[Hamerly2010] G. Hamerly. Making k-means even faster. SMD'10.
[HiPC15] V-PFORDelta: Data Compression for Energy Efficient Computation of Time Series, HiPC'15.
[ARMSVE] https://community.arm.com/groups/processors/blog/2016/08/22/technology-update-the-scalable-vector-extension-sve-for-the-armv8-a-architecture
[Cui14] Cui et.al. Optimized big data K-means clustering using MapReduce. The Journal of Supercomputing, 2014.
[Wang13]Wang et.al. Fast approximate k-means via cluster closures, CVPR'12.
[Wang15] Wang et.al. Optimized Cartesian K-means, IEEE Transactions on Knowledge & Data Engineering, 2015.