

# Random swap

Random swap algorithm implemented with fast kmeans. The algorithm could find the correct clusters in almost all datasets. Results could be improved with higher iterations limit. I was limited to small numbers due to computation time I had on my laptop.

He biggest problem was high dimensional data. With more dimensions there is more space where the random swap could be performed. I think that higher iteration limit would solve this problem.

Dataset	MSE	SWAPS	TIME (s)	CI	SUCCESS	ITERATIONS
A1	12355206281.12	16.99	119.51	0	1	1000
A2	20698974792.69	27.69	468.72	0.01	0.99	2000
A3	29870988282.12	37.21	724.65	0.02	0.98	2000
S1	8946138365571.19	13.68	166.11	0	1	1000
S2	13350866705261.20	11.87	190.91	0	1	1000
S3	17038888476011.40	10.25	239.87	0	1	1000
S4	15767467702282.40	10.46	502.51	0	1	2000
DIM032	7167101.74	7.49	49.25	1.85	0.09	1000
UNBALANCE	214497831006.48	10.61	168.08	0	1	1000