Multidimensional Scaling for Big Data

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1 Introduction

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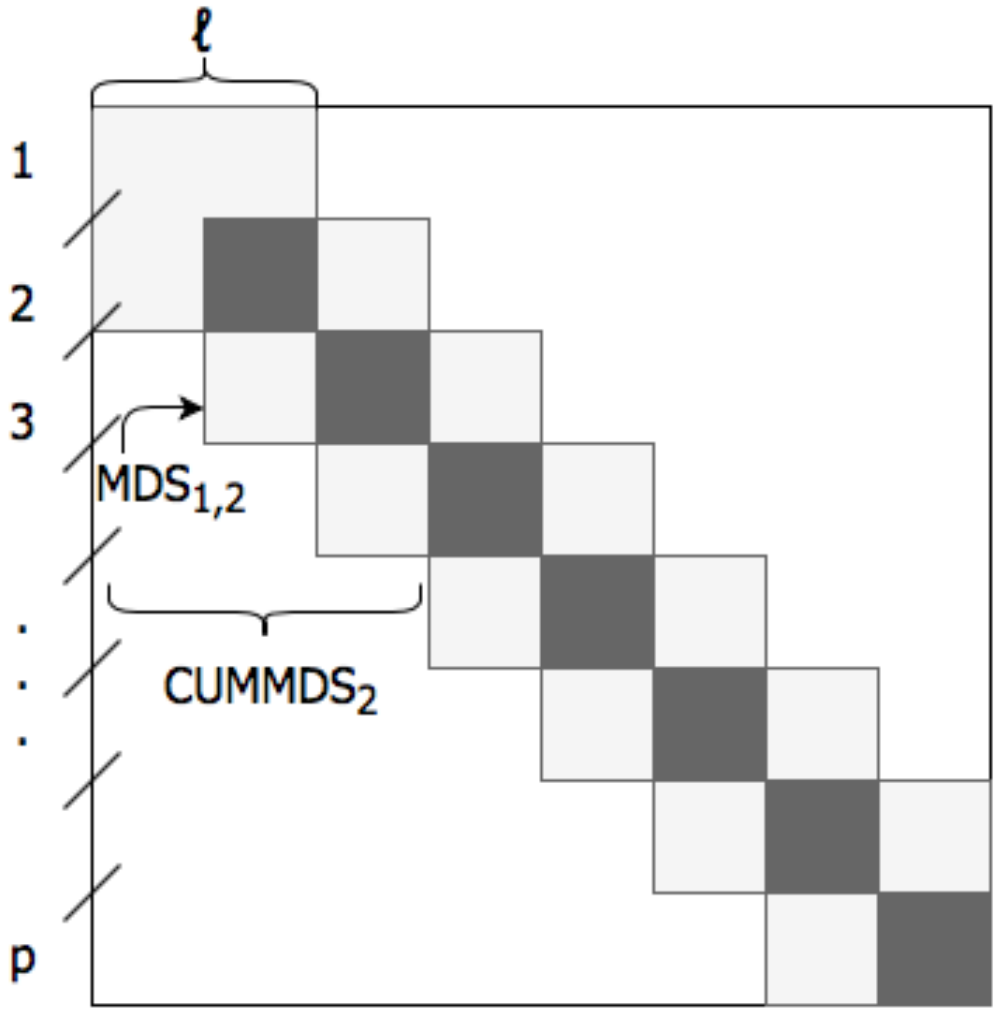
Divide and Conquer MDS



sample_size	n_dim	Div. Conq. $\overline{\sqrt{\phi}}$	Div. Conq. $\widehat{\text{bias}}$	Fast $\overline{\sqrt{\phi}}$	Fast $\widehat{\text{bias}}$	Gower $\overline{\sqrt{\phi}}$	Gower $\widehat{\text{bias}}$
10^3	10	14.98	-0.02	15.85	-0.15	15.05	0.05
10^3	100	15.03	0.03	15.01	0.01	15.02	0.02
$3 \cdot 10^3$	10	15.00	-0.00	14.91	-0.09	14.04	-0.06
$3 \cdot 10^3$	100	14.96	-0.04	15.10	0.10	15.04	0.04
$5 \cdot 10^3$	10	14.99	-0.01	14.96	-0.04	14.98	-0.02
$5 \cdot 10^3$	100	14.99	-0.01	15.03	0.03	15.02	0.02
10^4	10	14.99	-0.01	14.33	-0.67	14.99	-0.01
10^4	100	14.99	-0.01	15.09	0.09	15.06	0.06
10^5	10	14.99	-0.01	15.00	0.0	15.04	0.04
10^5	100	14.99	-0.01	15.00	0.0	14.97	-0.03
10^6	10	14.98	-0.02	14.86	-0.14	14.98	-0.02
10^6	100	14.99	-0.01	14.90	-0.10	14.90	-0.10