Notation Table

Notation	Description
V	Set of all vertices.
E	Set of all edges.
$\mathcal{K}$	Number of partitions or servers in distributed settings.
$\mathcal{V}_i$	The set of vertices assigned to partition i.
ϵ	Maximum imbalance in the size of partitions.
$\mathcal{N}(v)$	Neighbours for vertex v
$\mathcal{V}_i^t$	State of partition i at time t when partitioning t^{th} vertex in the stream.
$\mathcal{P}(v)$	Function returning the partitioning that vertex v is assigned to.
$D(v)$	Function showing the number of different partitions that v has at least a neighbour in them.
λ_{EC}	Normalized edge-cut metric.
λ_{CV}	Normalized communication volume metric.
θ	Hyperparameter in buffer-score function.
D_{max}	The degree threshold for buffering.
μ	Ratio of vertices to edges, used for normalizing.
δ	Fennel's penalty function
$\mathcal{K}'$	Number of sub-partitions.
$\mathcal{S}_i$	The set of vertices assigned to partition i
$\mathcal{W}(i,j)$	Weight of the edge between sub-partition $\mathcal{S}_i$ and $\mathcal{S}_j$.
$ECP_{\mathcal{S}_i,\mathcal{V}_{dest}}$	Change in edge-cut if we put sub-partition $\mathcal{S}_i$ in partition $\mathcal{V}_{dest}$
$DEC_{\mathcal{S}_i,\mathcal{V}_{src},\mathcal{V}_{dest}}$	Row 10, Col 4
$MS_{\mathcal{V}_{src},\mathcal{V}_{dest}}$	Row 10, Col 2
$Thresh$	The threshold in the refinement process that determines the termination of refinement.

Table 1: List of all notations used in Cuttana