	Milo	**MELD**	**DAseq**	**Cydar**	**Louvain + GLM**
Framework	R	python	R	R	R
Unit for DA estimate	KNN graph neighbourhood	Cell	Cell	PC hypersphere	Cluster
Hyperparameters	d	d	d	d	d
	K	K	minimum K	hypersphere radius	K
	prop		maximum K	downsampling fraction	(resolution)
			K step		
Clustering-free	yes	yes	yes	yes	no
Representative sampling across dataset	yes	yes	yes	no	yes
Output					
Effect size estimate	log-Fold change	condition likelihood	DA score	log-Fold change	log-Fold change
Statistical testing	yes	no	yes	yes	yes
Modelling variation between replicates	yes	no	no	yes	yes
Spatial FDR control	yes	no	no	yes	NA
DA testing experimental design					
two condition	yes	yes	yes	yes	yes
multi-condition	yes	yes	no	yes	yes
continuous condition	yes	no	no	yes	yes
nuisance covariate control	yes	no	no	yes	yes
interaction	yes	no	no	yes	yes