

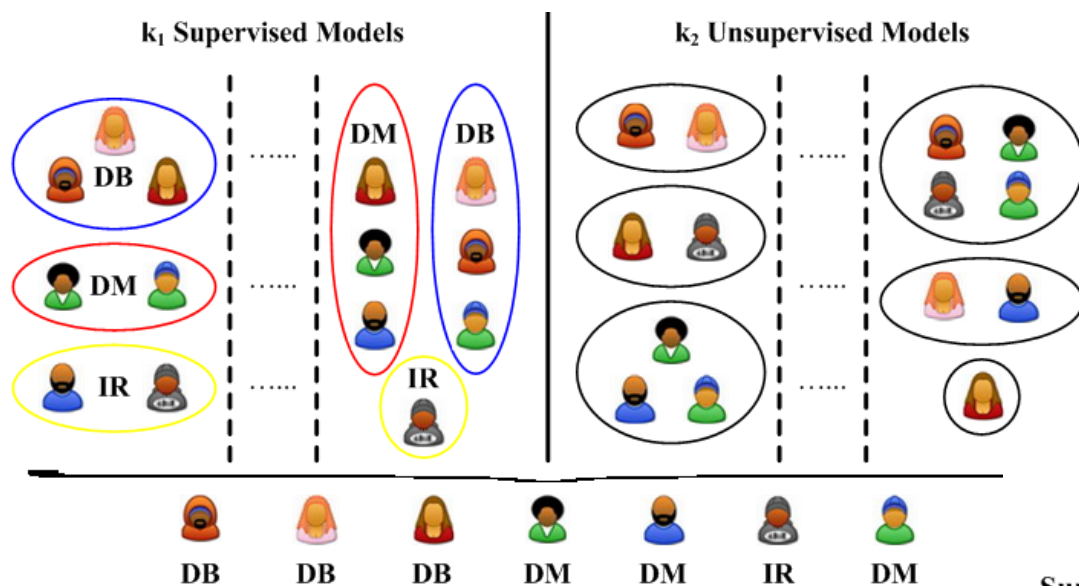


Graph-based Consensus Maximization among Multiple Supervised and Unsupervised Models



Jing Gao¹, Feng Liang¹, Wei Fan², Yizhou Sun¹, Jiawei Han¹

¹ University of Illinois, Urbana-Champaign ² IBM TJ Watson



Information fusion at the **output** level when raw data are not accessible

a semi-supervised ensemble approach

consensus among all the models

Propagation over a **bipartite graph** to reach an agreement among **supervised** predictions and **unsupervised** constraints

Supervised Learning	SVM, Logistic Regression,	Bagging, Boosting, Bayesian model averaging,	Mixture of Experts, Stacked Generalization	Majority Voting
Semi-supervised Learning	Semi-supervised, Transductive Learning	Multi-view Learning	Consensus Maximization	
Unsupervised Learning	K-means, Spectral Clustering,		Clustering Ensemble	
	Single Models	Ensemble at Raw Data	Ensemble at Output Level	