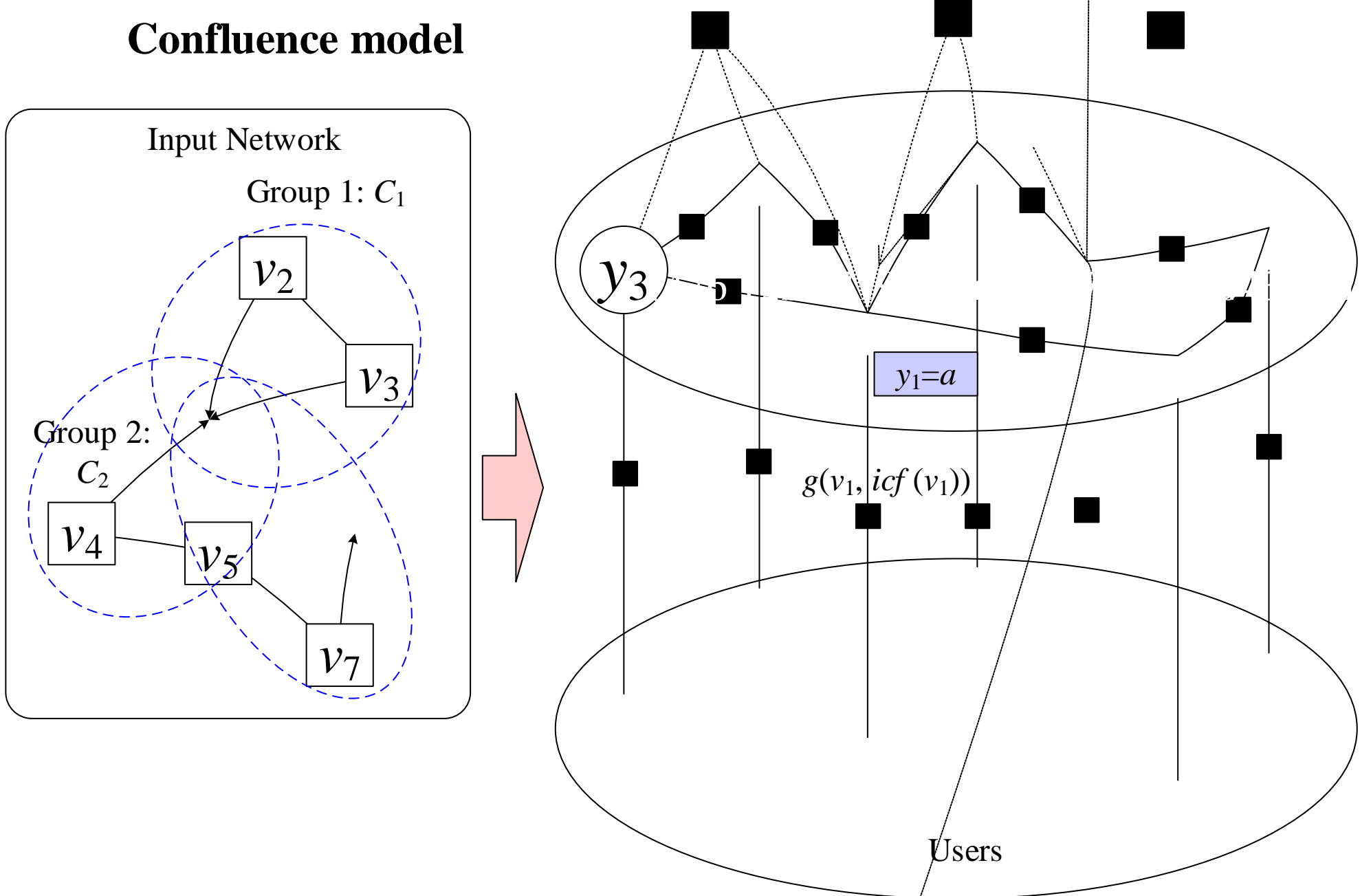


Challenges:

- H?
- How to construct a computational model to learn the different conformity factors?
- How to validate the proposed model in real large networks?

Conformity



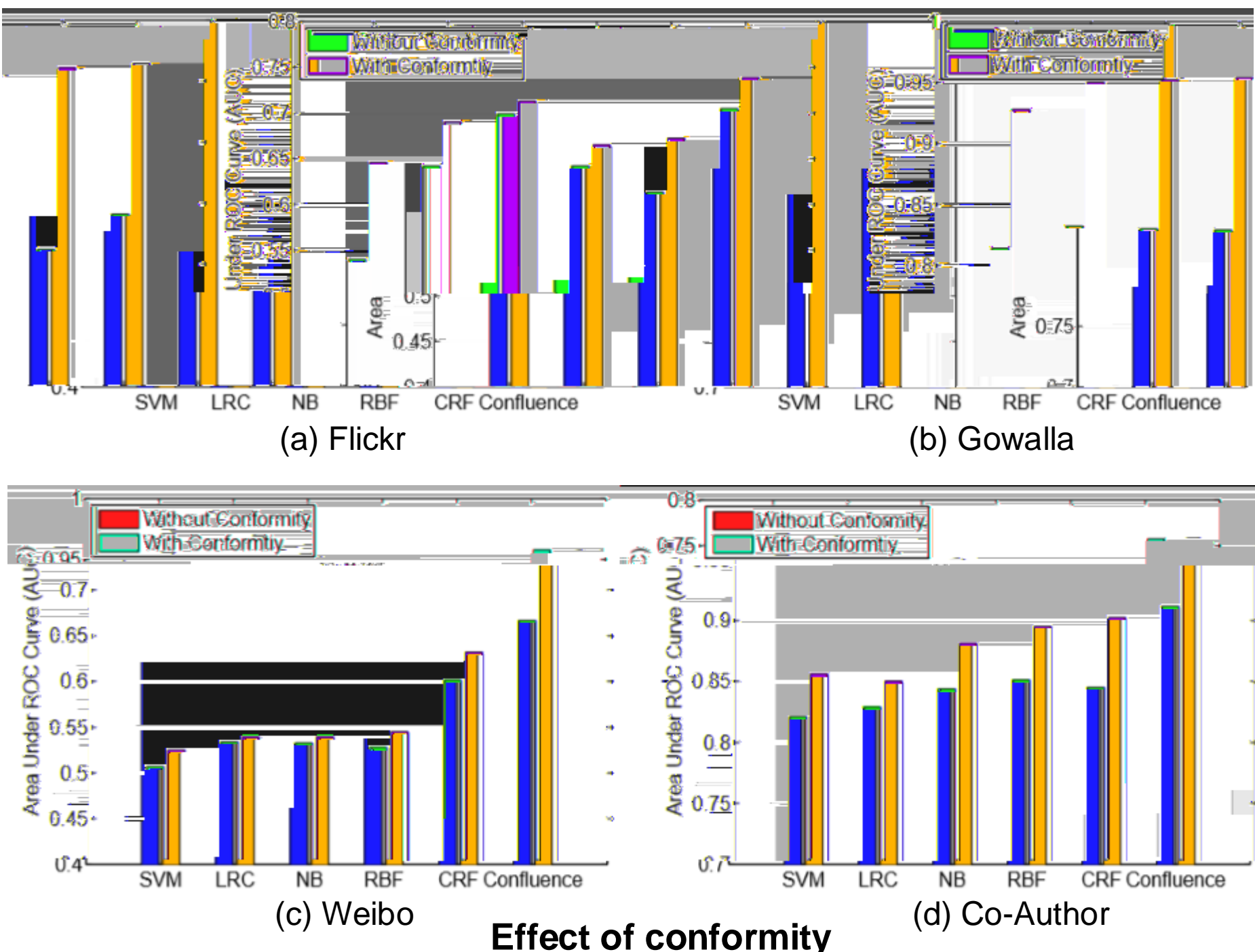
Flickr — v				
•	v		v	v
Gowalla —	v		v	v
•	v		v	
Weibo —			v	
•	v			
Co-Author —	v		v	v
•	v		v	v

Dataset	Flickr	Gowalla	Weibo	Co-Author
#edges	2,416,472	208,118,719	950,327	308,489,739
#groups	60	460,888	N/A	N/A
#actions	1,974,466	3,531,801	6,442,890	6,761,186

Support Vector Machine (SVM) —	v	v	v	
Logistic Regression (LR) —	v	v	v	
Naive Bayes (NB) —	v	v	v	
Gaussian Radial Basis Function Neural Network (RBF) —			v	v
Conditional Random Field (CRF) —	v	v	v	v
	v			v

Prediction accuracy:	v	v		v
	v	v		
Scalability performance:	v	v		v
	v	v		
Qualitative case study:	v	v		

$$icf(v) = \frac{|\{(a, v', t') \in A_v | \exists (a, v, t) : e_{vv'} \in E \wedge \epsilon \geq t - t' \geq 0\}|}{|A_v|}$$
$$pcf(v, v') = \frac{|\{(a, v', t') \in A_{v'} | \exists (a, v, t) : e_{vv'} \in E \wedge \epsilon \geq t - t' \geq 0\}|}{|A_{v'}|}$$
$$gcf^\tau(v, C_{vk}) = \frac{|\{(a, v', t') \in A_{C_k} | \exists (a, v, t) : e_{vv'} \in E \wedge \epsilon \geq t - t' \geq 0\}|}{|A_{C_k}^\tau|}$$



Effect of conformity

Running time of the proposed algorithm (hour).				
Dataset	Flickr	Gowalla	Weibo	Co-Author
Confluence	1.602	0.245	1.083	0.512
Confluence (single)	19.637	2.395	11.229	6.464
CRF	2.360	0.227	0.227	0.227

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