



How Do Your Friends on Social Media **Disclose** Your **Emotions**?

Yang Yang, Jia Jia, Shumei Zhang, Boya Wu,
Qicong Chen, Juanzi Li, Chunxiao Xing, and Jie Tang
Tsinghua University

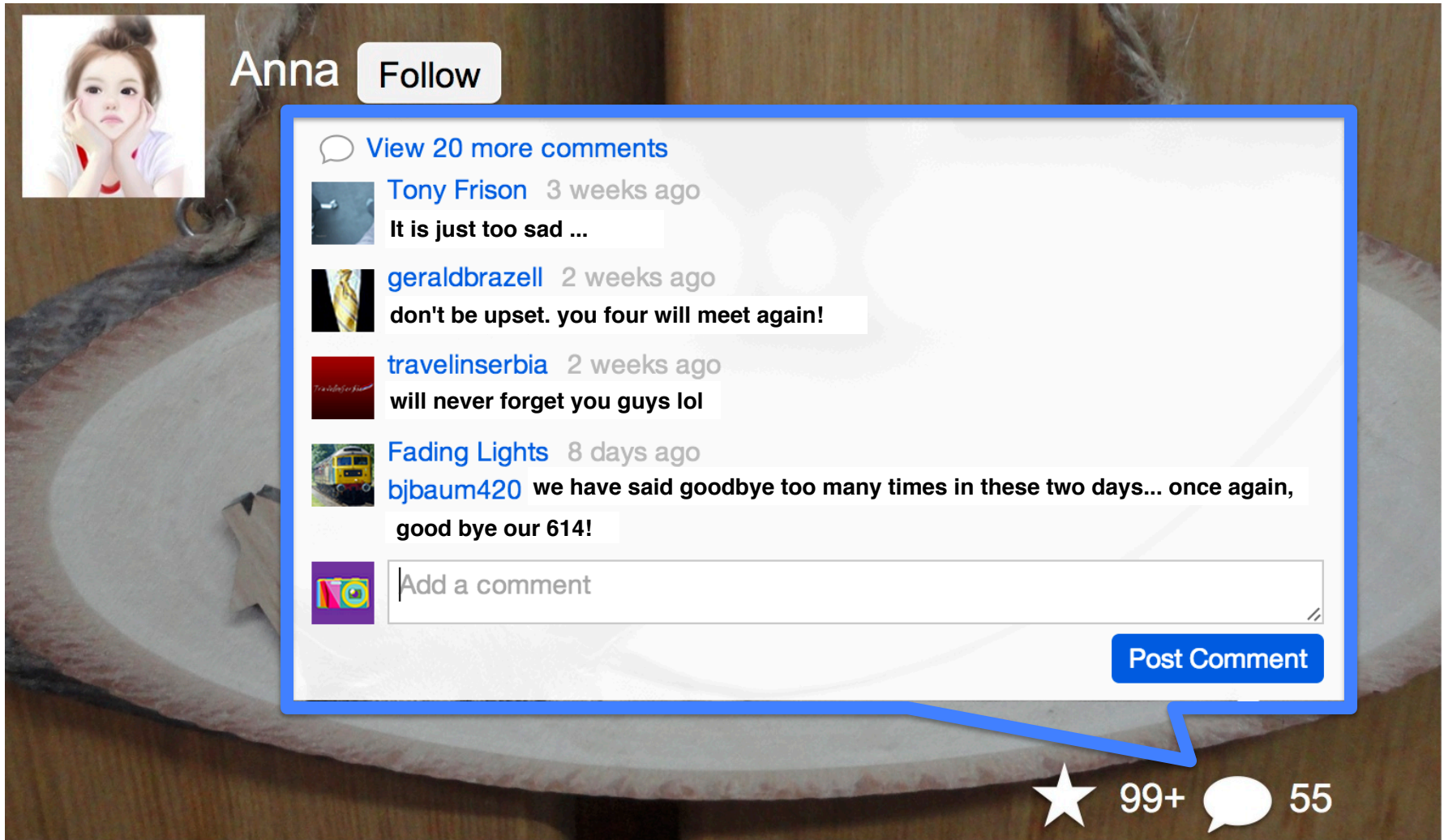
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Anna Follow


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 **Tony Frison** 3 weeks ago
It is just too sad ...

 **geraldbrzell** 2 weeks ago
don't be upset. you four will meet again!

 **travelinserbia** 2 weeks ago
will never forget you guys lol

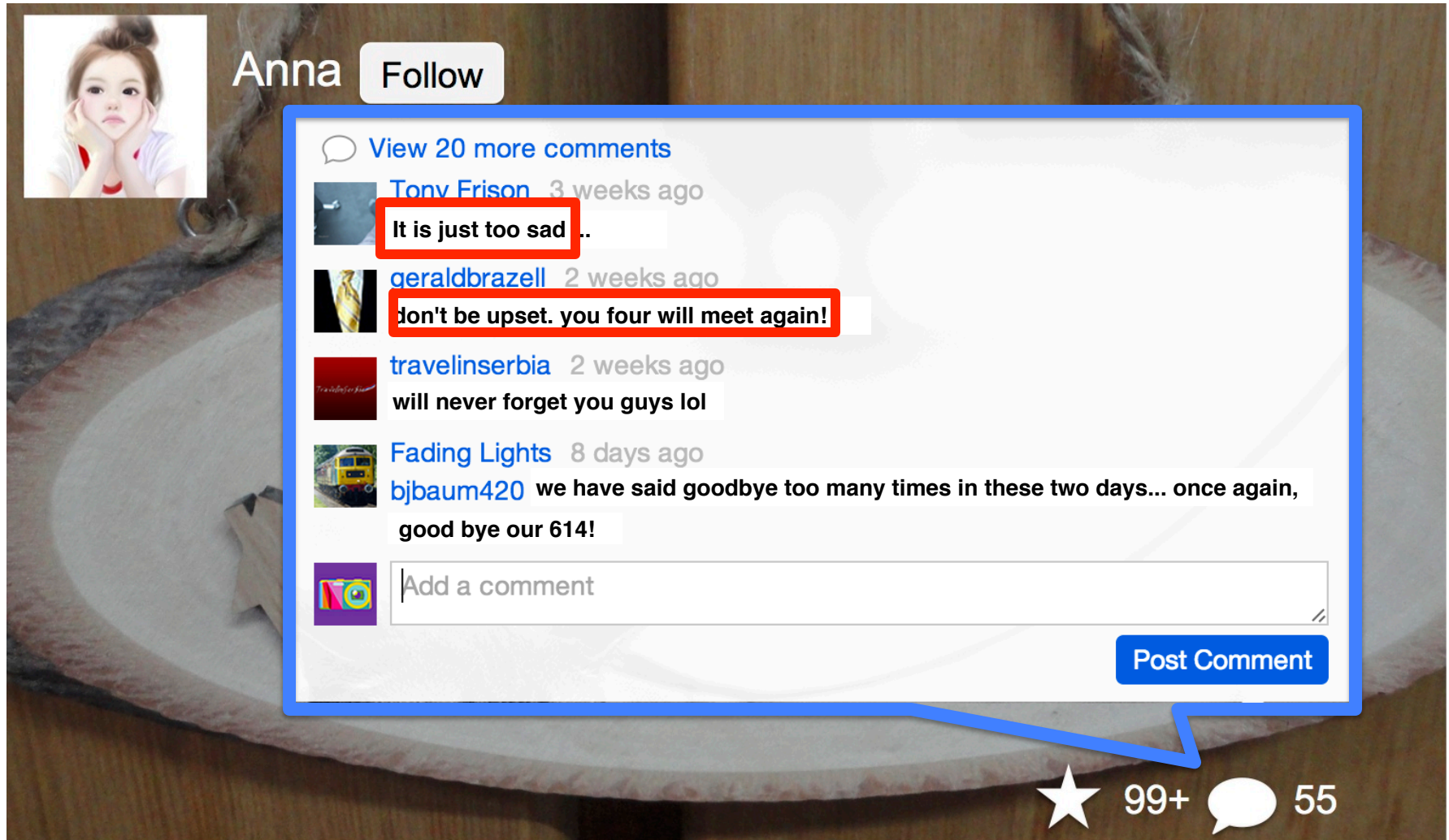
 **Fading Lights** 8 days ago
bjbaum420 we have said goodbye too many times in these two days... once again, good bye our 614!



[Post Comment](#)

★ 99+ 55

Was Anna Happy When She Published This Photo On Flickr?



The image is a screenshot of a Flickr photo page. At the top left is a profile picture of a woman named Anna, with her name and a 'Follow' button next to it. The background of the page is a large, artistic photograph of a wooden surface with a circular, textured object. A blue-bordered comment box is overlaid on the right side of the image. It contains a list of comments from various users, with two comments highlighted by red rectangular boxes. At the bottom of the comment box is a text input field with the placeholder 'Add a comment' and a 'Post Comment' button. Below the comment box, at the bottom right of the page, are icons for a star (likes), a speech bubble (comments), and their respective counts: '99+' and '55'.

Anna Follow

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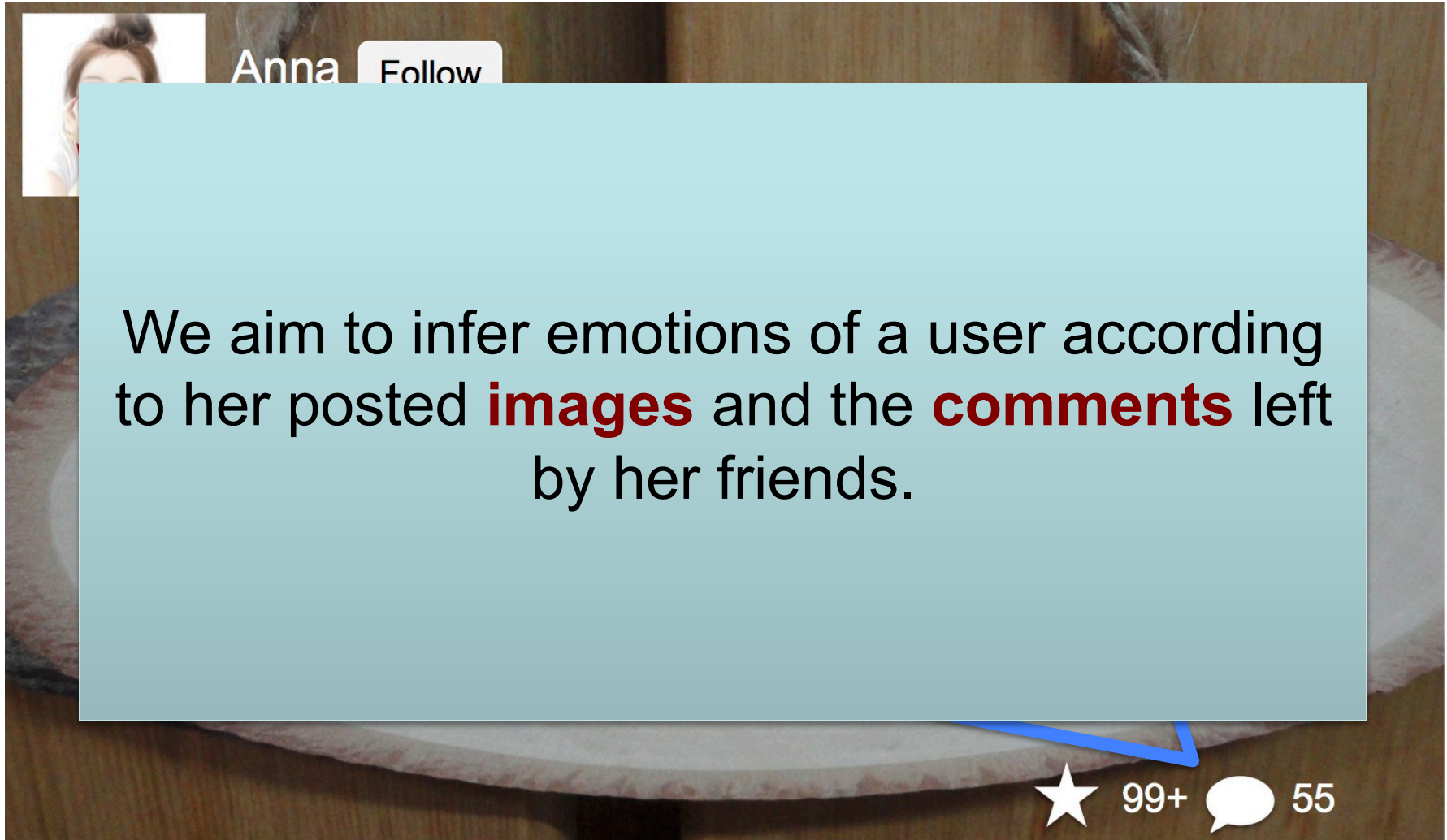
good bye our 614!

Add a comment

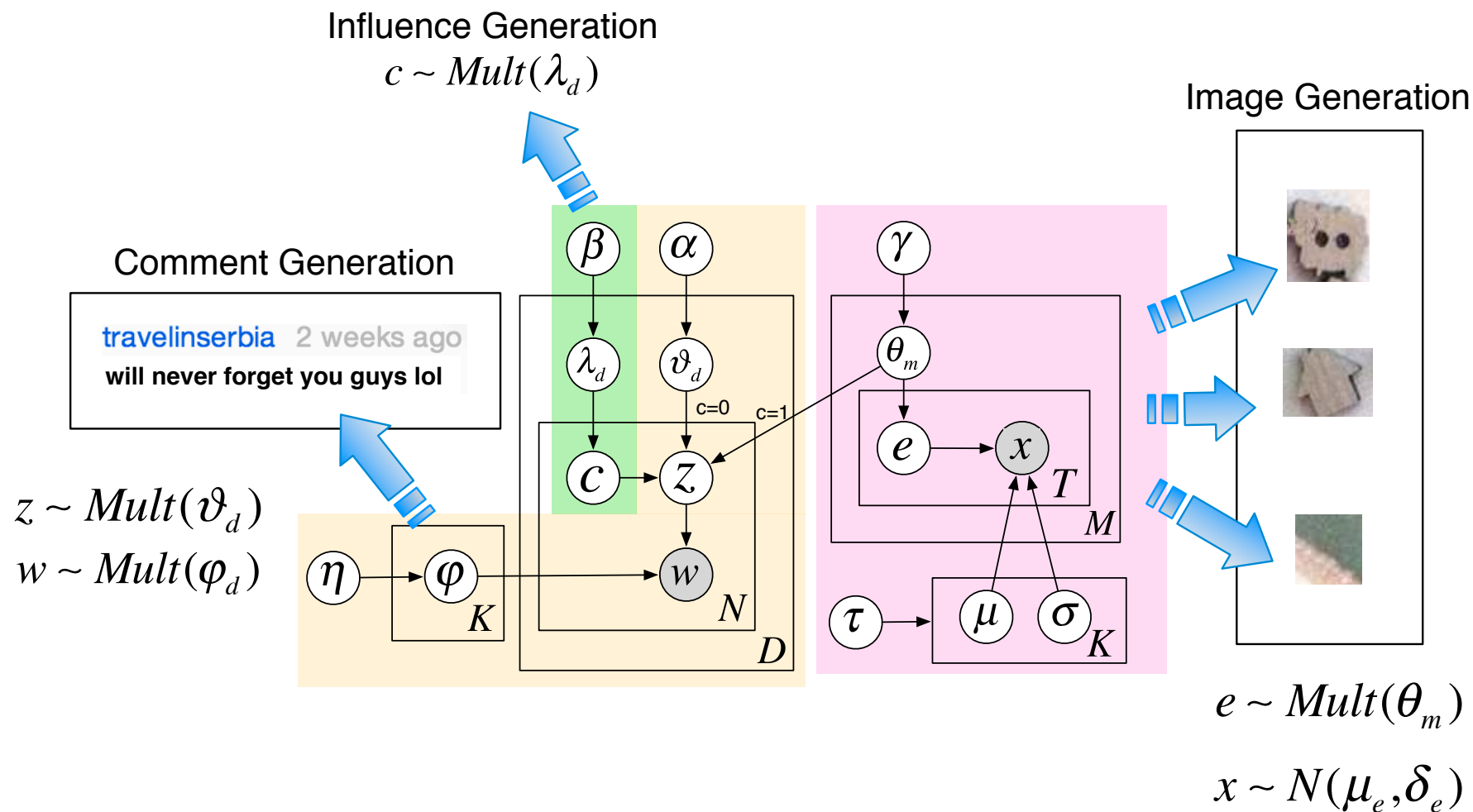
Post Comment

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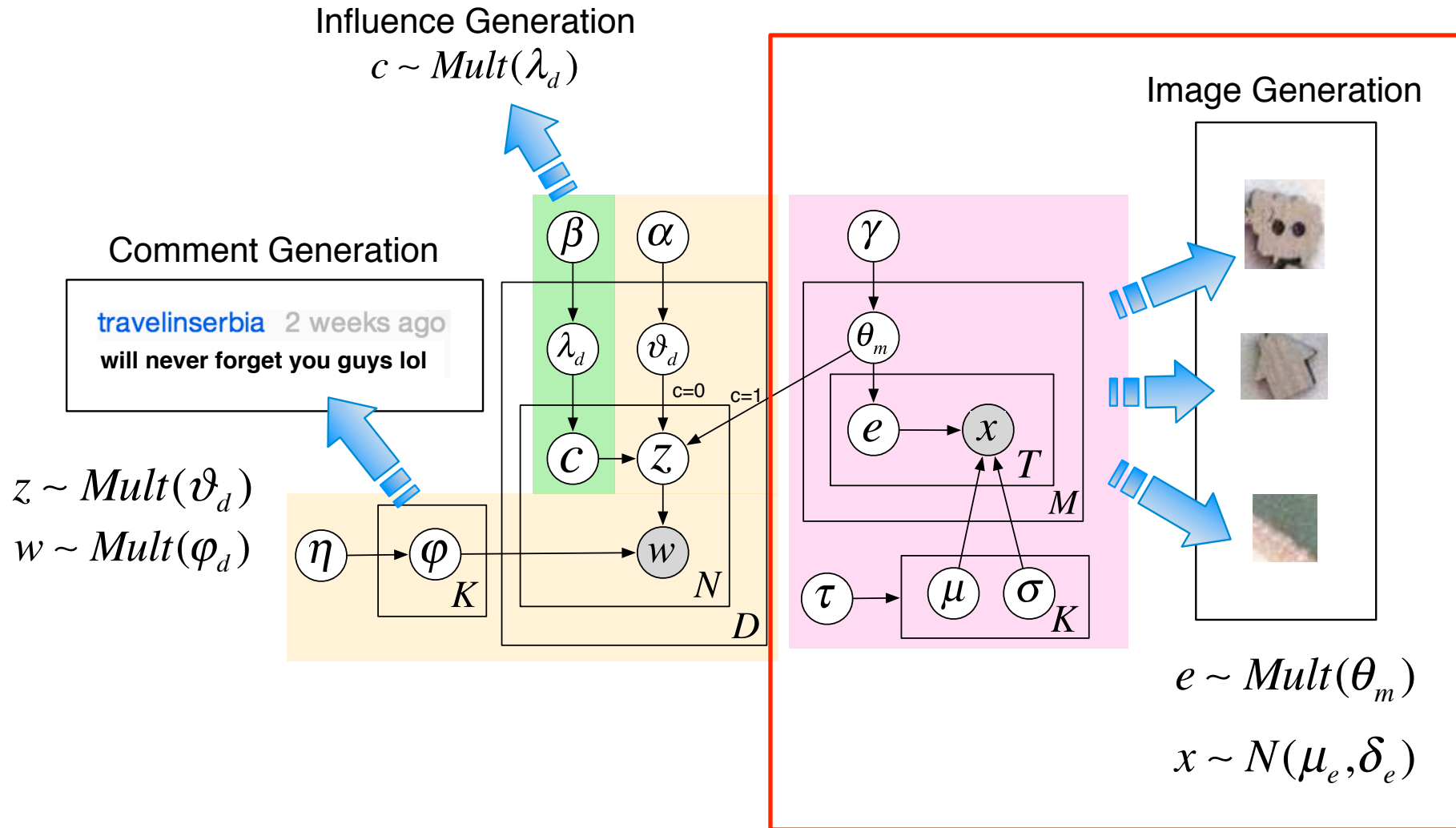
Was Anna Happy When She Published This Photo On Flickr?



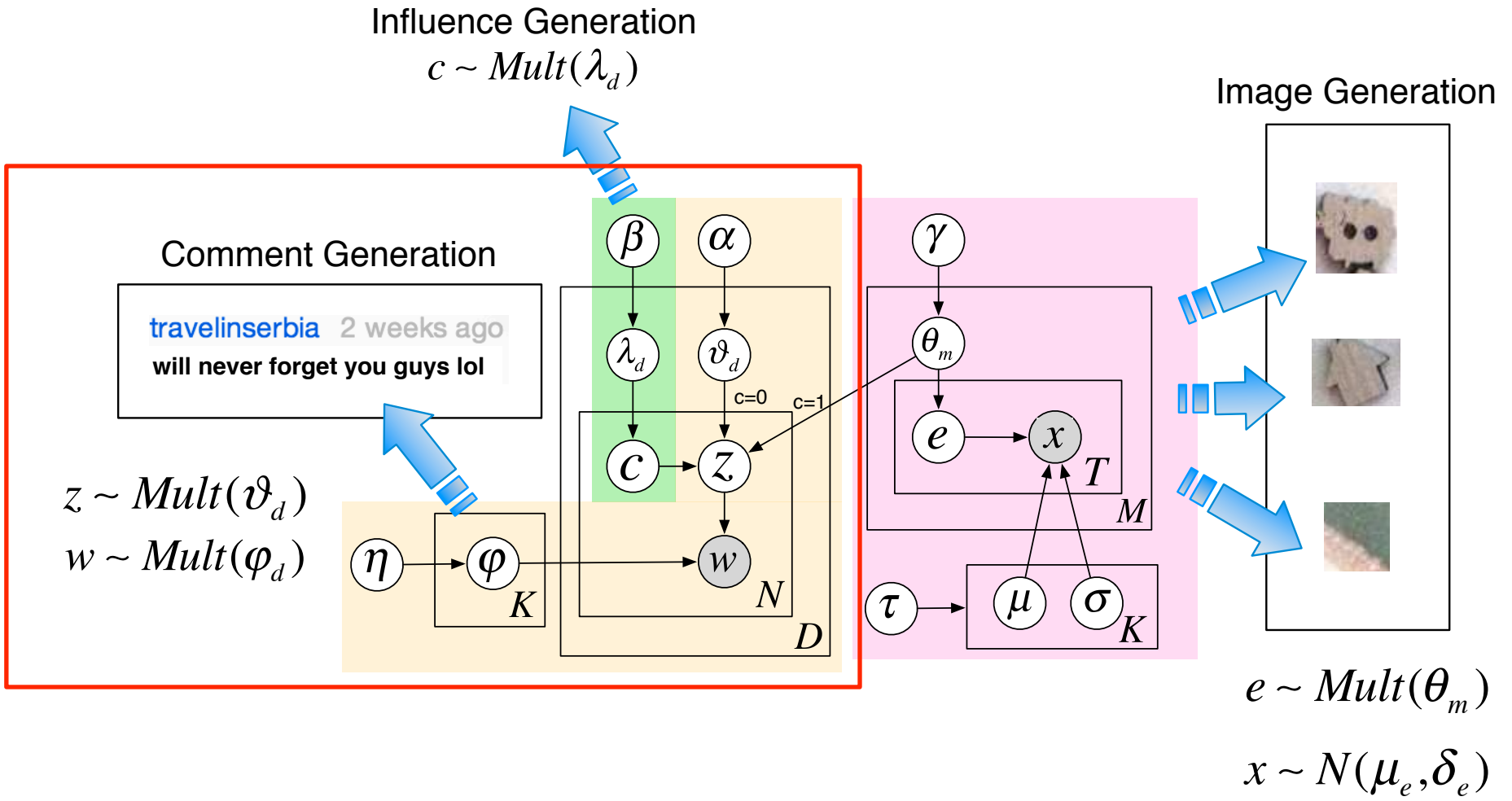
Emotion Learning Method



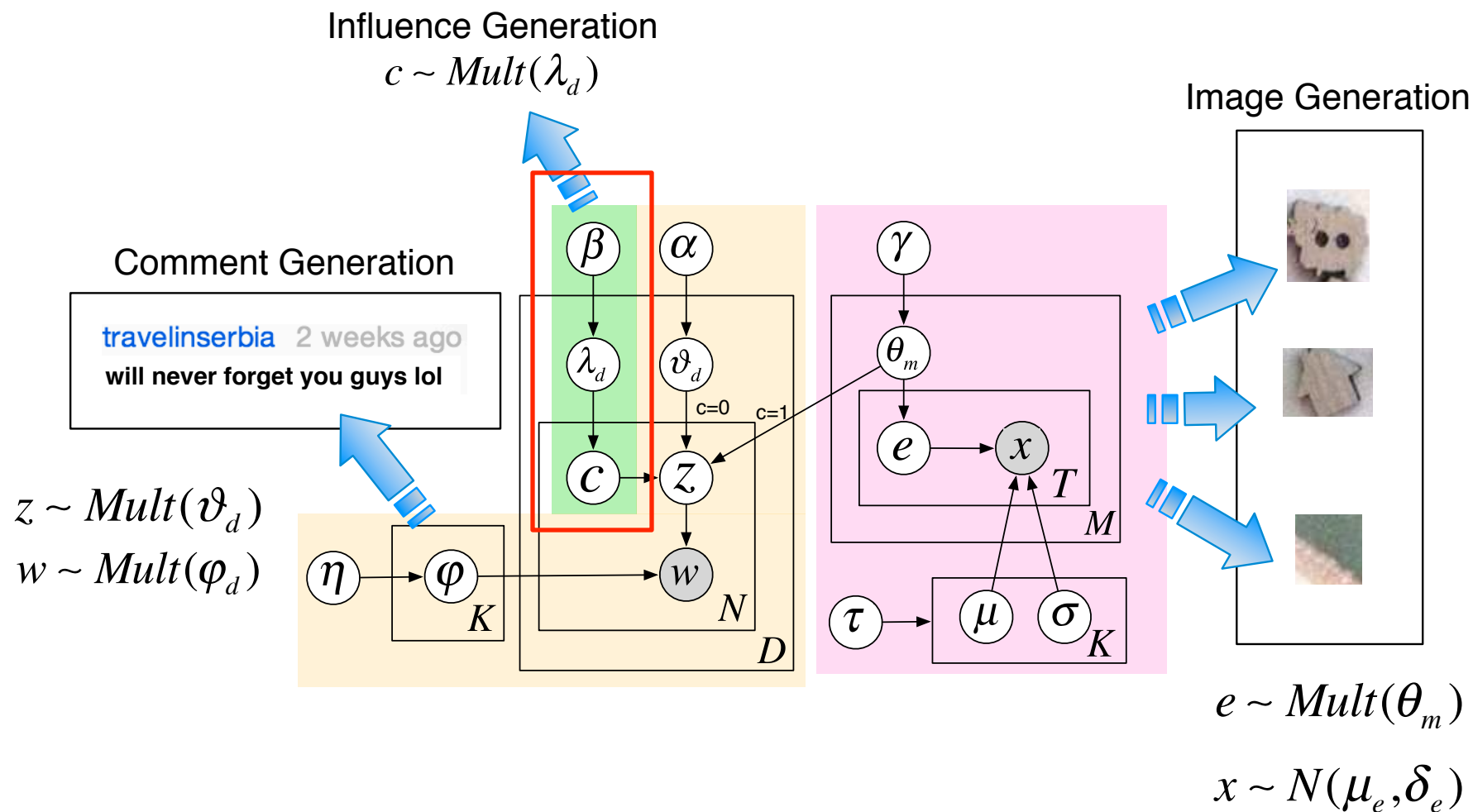
Emotion Learning Method



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Emotion Inference

Averagely **+37.4%**
in terms of F1

Table 2: Performance of emotion inference.

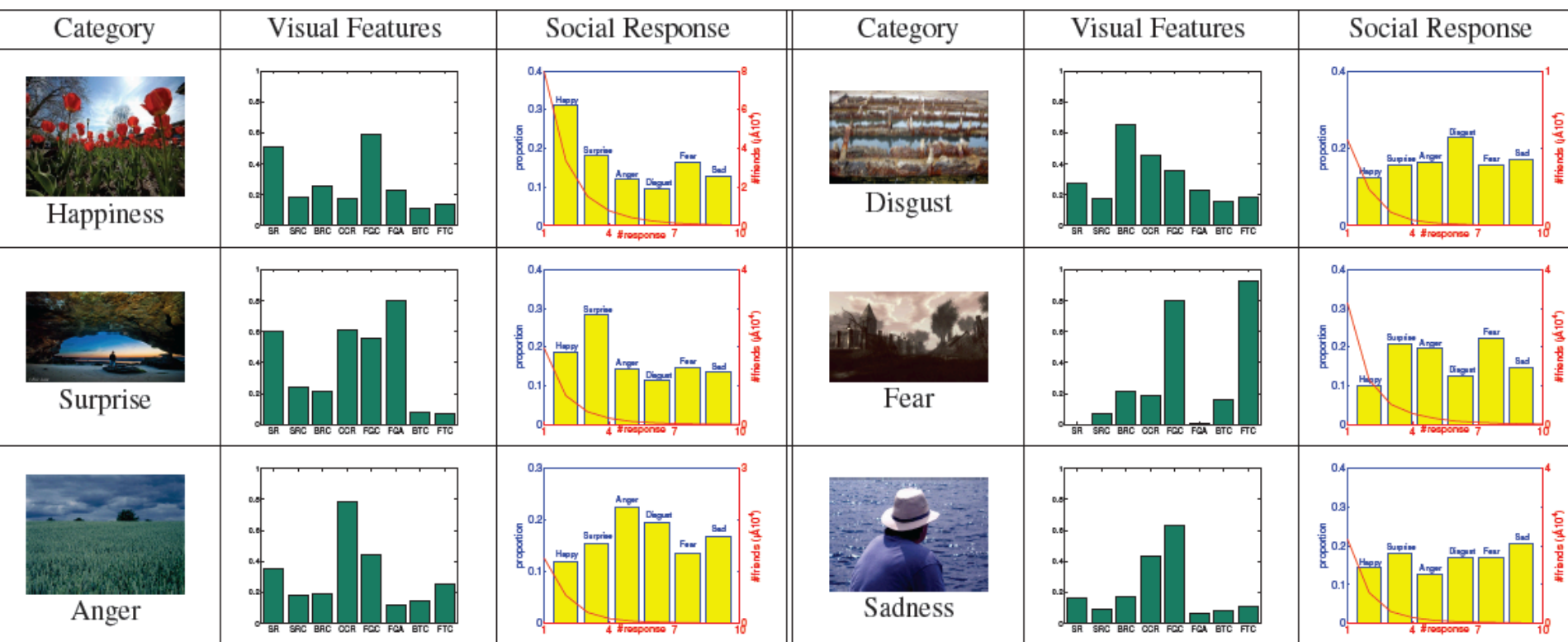
Emotion	Method	Precision	Recall	F1-score	Emotion	Method	Precision	Recall	F1-score
Happiness	SVM	0.242	0.279	0.259	Disgust	SVM	0.192	0.236	0.212
	PFG	0.337	0.312	0.324		PFG	0.309	0.374	0.339
	LDA+SVM	0.333	0.727	0.457		LDA+SVM	0.223	0.223	0.223
	EL+SVM	0.367	0.410	0.388		EL+SVM	0.331	0.432	0.374
Surprise	SVM	0.197	0.037	0.063	Fear	SVM	0.204	0.264	0.230
	PFG	0.349	0.340	0.345		PFG	0.301	0.408	0.347
	LDA+SVM	0.218	0.048	0.078		LDA+SVM	0.211	0.225	0.217
	EL+SVM	0.425	0.516	0.466		EL+SVM	0.371	0.343	0.356
Anger	SVM	0.188	0.105	0.135	Sadness	SVM	0.225	0.365	0.278
	PFG	0.191	0.142	0.163		PFG	0.357	0.286	0.317
	LDA+SVM	0.222	0.109	0.146		LDA+SVM	0.257	0.278	0.267
	EL+SVM	0.390	0.370	0.380		EL+SVM	0.561	0.617	0.588

SVM: regards the visual features of images as inputs and uses a SVM as a classifier.

PFG: considers both color features and social correlations among images.

LDA+SVM: first uses LDA to extract latent topics from comments, then uses visual features, topic distributions, and social ties as features to train a SVM.

Image Interpretations



- Our model demonstrates how visual features distribute over different emotions. (e.g., images representing Happiness have high saturation)
- Positive emotions attract more response (+4.4 times) and more easily to influence others compared with negative emotions.

- *We study the problem of inferring emotions of images from a new perspective by bringing in comment information.*
- Thanks!
- Code & Data:
 - <http://aminer.org/emotion>