

社会化网络的用户数据分析

赵卫东 博士

复旦大学软件学院

wdzhao@fudan.edu.cn

议程

- 社会化网络的发展
- 电子零售网站顾客商品评论分析
- 微博用户的情感分析

社会化网络的发展

- 增强商家与顾客、顾客之间互动
- 建立口碑并增强信任
- 社会化营销是一种新的营销方式

美丽说—典型的社会化网络

关注我们 4475万

首页 翻杂志 今日最热 衣服 鞋子 包包 配饰 家居 口碑美妆 逛美妆 搭配 达人 品牌 福利社 好店

Positive energy
开启你的幸

Gandy color sandal
“糖果色凉鞋”
将流行穿在脚上

TOP100 今日最热 TOP100 衣服榜

今日编辑精选

夏季最佳装备

美丽说

微博登录 QQ登录 登录 注册

首页 翻杂志 今日最热 衣服 鞋子 包包 配饰 家居 口碑美妆 逛美妆 搭配 达人 品牌 福利社 好店



淡淡的罗马性感高跟鞋~~错过了这个秋就要等下一个了哦~~现在是促销价格78元~~

评论 (39)

评论

qzone785253 鞋子很好看，但是我太高了。穿上去都没有人跟我走在一起了。 05月16日 23:56 回复

小女公猪 好不好 05月17日 11:52 回复

哇'你瞧。 喜欢这种风格`很简约 05月17日 23:36 回复

香蕉_qq557 喜欢 05月19日 17:42 回复

电子零售网站顾客产品评论

amazon
Join Prime

Shop by
Department ▾

Cell Phones & Access

http://www.amazon.com/iPhone-Anti-Glare-Anti-Scratch-Anti-Fingerprint - Matte Finishing Screen Protector

文件(F) 编辑(E) 查看(V) 收藏夹(A) 工具(T) 帮助(H)

☆ 建议网站 ▾

Cell Phones & Accessories All Electronics Contract Cell Phones No-Contract Cell Phones Unlocked Cell Phones Accessories Best Sellers Deals

Customer Reviews

iPhone 4 / 4S Anti-Glare, Anti-Scratch, Anti-Fingerprint - Matte Finishing Screen Protector

3,505 Reviews

Average Customer Review
★★★★☆ (2,505 customer reviews)

Share your thoughts with other customers
[Create your own review](#)

Search Customer Reviews

☒ Only search this product's reviews

5 star: (1,542)
4 star: (617)
3 star: (357)
2 star: (282)
1 star: (707)

The most helpful favorable review

763 of 798 people found the following review helpful

★★★★★ **Excellent Screen Protector**
I like to buy the best products out there, which normally means I buy the more expensive items. But come on, this is a piece of plastic to protect my iPhone 4 screen. I have only bought a screen protector once before, for my toddler's iPod, and had bubbles all over the screen. So I thought these screen protectors were all garbage. But after getting a big scare by...
[Read the full review >](#)
Published 15 months ago by Tool Guy
[See more 5 star, 4 star reviews](#)

The most helpful critical review

25 of 33 people found the following review helpful

★☆☆☆☆ **Not Matte or Anti-Glare as it claims to be...very disappointed.**
Either, the wrong screen protectors were sent or this company is falsely marketing this product. I wanted the anti-glare and matte finishing....this is neither. Because these were so cheap, I'm not going to go through the hassle of doing anything further to get the correct product...just not worth my time. But, did want to give this a review so others could see before...
[Read the full review >](#)
Published 8 months ago by Shan Shan
[See more 3 star, 2 star, 1 star reviews](#)

vs.

< Previous | 1 2 ... 351 | Next >

Most Helpful First | Newest First

763 of 798 people found the following review helpful

★★★★★ **Excellent Screen Protector**, December 31, 2011
By [Tool Guy](#) (Austin, TX USA) - [See all my reviews](#)
[Amazon Verified Purchase \(What's this?\)](#)
This review is from: iPhone 4 / 4S Anti-Glare, Anti-Scratch, Anti-Fingerprint - Matte Finishing Screen Protector (Wireless Phone Accessory)
I like to buy the best products out there, which normally means I buy the more expensive items. But come on, this is a piece of plastic to protect my iPhone 4 screen. I have only bought a screen protector once before, for my toddler's iPod, and had bubbles all over the screen. So I thought these screen protectors were all garbage. But after getting a big scare by accidentally putting my iPhone in my pocket with my car keys, and getting a very light scratch on my screen, I thought I'd give these screen protectors another try.
And again, I thought I'd try some of the cheapest at Amazon, because, well, it's just a piece of plastic. If I was wrong, I was only out a buck or so, and could then go and buy the expensive screen protectors. But this time, I researched around and read some blogs, and found out dust is the culprit for bubbles. Taking that advice, I

This product



iPhone 4 / 4S Anti-Glare, Anti-Scratch, Anti-Fingerprint - Matte Finishing Screen Protector by Generic
[Click for more info](#)
In Stock

FREE Two-Day Shipping
on over 15 million items



amazon Prime

Advertisement

Customers who viewed this item also viewed



6 Front & Back Protector Sets for Apple iPhone 4 LCD Touch Screen (12 Protectors Total - 6 Front / 6 Back) by Generic
★★★★☆ (593)
[Click for more info](#)
In Stock

67% 4.5K/5 6.1K/5 100%

全部商品分类



首页

服装城

搭配购

团购

夺宝岛

在线游戏

手机数码 > 时尚影音 > MP3/MP4 > 台电 > 台电X19+

全部评价(10247)

好评(9222)

中评(742)

差评(283)

有晒单(70)



毅術家

银牌会员 广西

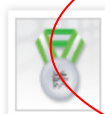
台电X19 ★★★★★

2013-04-03 13:13

优点: 续航时间长 小巧精致
不足: 有点容易按到朗读文字功能。。。
心得: 不错 续航时间长 小巧
颜色: X19+ 购买日期: 2013-03-26

有用(0)

回复(0)



piggy0122

铁牌会员 辽宁

物有所值 ★★★★★

2013-04-03 11:15

优点: 待机时间够长
不足: 播放顺序不能按照文件名排列
心得: 待机时间够长, 音质也可以, 就是播放顺序很乱, 不是按照文件名的顺序播放, 想用它听连续的音频就会很麻烦。
购买日期: 2013-03-23

有用(0)

回复(0)



1***0

台电科技 ★★★★★

2013-04-03 08:45

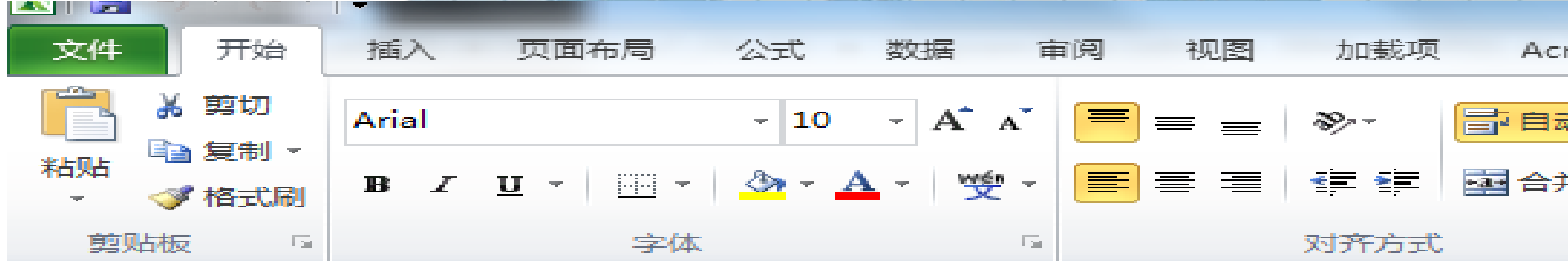
优点: 续航能力强
不足: 暂时还没发现缺点哦!

议程

- 社会化网络的发展
- 电子零售网站顾客商品评论分析
- 微博用户的情感分析

在线产品评论分析过程（重点）

- 数据抓取
- 分词
- 关键词聚类（语义识别）
- 情感分析（兴趣主题、情感极性和强度） 难点！
- 如何应用？



F6				fx				Male			
	A	B	C								
	Respondent ID	Q1: What do you like most about this portable music player?	Q2: What do you like least about this portable music player?								
1	1	little, light	expensive								
2	2	The battery power is great.	The screen is hard to see when outside.								
3	3	cost and size	difficult software								
4	4	Having all my CDs in the palm of my hand!	Nothing, I love it!								
5	5	The shuffle mode.	Battery life seems shorter than advertised.								
6	6	Battery life. Portability. Accessories. Style.	Ubiquitousness; everyone has one.								
7	7	I like its ability to store all of my music. I also like the ability to create playlists.	I wish the 40GB model was still available. I have a 20GB model and need more memory.								
8	8	portability, capacity, sound quality, durability	it doesn't have a light.								
9	9	Small, great sound, capacity.	Nothing. I love it.								
10	10	Able to hold all of my songs in one place.	It is in the shop due to a hardware failure.								
11	11	It's portable! I can take it anywhere.	smudges on the display								
12	12	Living in my own little world	Battery life								
13	13	mobility	Technical difficulties setting it up initially and managing the library of songs on my PC.								
14	14	I like that Product A has a lot of	It is a little heavy, and the battery								

File Edit View Categories Tools Help



Q1: What do you like most about this portable music player?

Build Extend

Category	#Des...	#Res...
All Records	-	405
Uncategorized	-	287
No concepts extracted	-	4
songs+<Positive>	3	9
design+<Positive>	2	7
battery+<Contextual>	2	3
store+<Positive>	2	4
skipping+<Contextual>	2	2
look+<Positive>	2	3
feature+<Positive>	2	3
capacity	4	11
software+<Positive>	1	3
function	2	2
playlists+<Positive>	1	2
battery life+<Positive>	1	5

Unused Extractions

All Extractions

Extract	Concept
smali (54)	
music (49)	
easy to use (44)	
like (43)	
portable (43)	
size (36)	

Category Bar

Category Web

Category Web Table

Color bars by: Select reference

Display 100% bars

Category	Bar	Selection % ^	Respondents	Total %
music		6.7	27	0.0
sound		5.7	23	0.0
size		3.0	12	0.0
capacity		2.7	11	2.7
songs+		2.0	8	2.2
design+		1.7	7	1.7
battery li		1.2	5	1.2
listening		1.2	5	0.0
interface		1.0	4	1.0
cds		1.0	4	0.0
store+<f		1.0	4	1.0
software		0.7	3	0.7
battery+		0.7	3	0.7
look+<P		0.7	3	0.7
volume+		0.5	2	0.5

Id

Response

	Id	Response
1	1	little, light
2	2	The battery power is great.
3	3	cost and size
4	4	Having all my CDs in the palm of my hand!
5	5	The shuffle mode.
6	6	Battery life. Portability. Accessories. Style.

24 (40) Categories

0

0

Unused Extractions

All Extractions

Extract




Concept



- small* (54)
- music* (49)
- easy to use* (44)
- like* (43)
- portable* (43)
- size* (36)
- good* (30)
- excellent* (30)
- songs* (25)
- listening* (25)
- sound quality* (21)
- product* (18)
- large* (18)
- design* (15)
- cds* (13)

Unused Extractions


All Extractions



Extract





 

Type



 <Unknown> (301)

 <Positive> (235)

easy to use (44)

like (43)

portable (43)

good (30)

excellent (30)

compact (12)

light (12)

cool (11)

convenient (10)

easy (10)

meets needs (7)

appropriate (6)

accessible (5)

able (4)

handy (4)

general satisfaction (3)

user-friendly (3)

reliable (3)

well-designed (3)

fast (3)

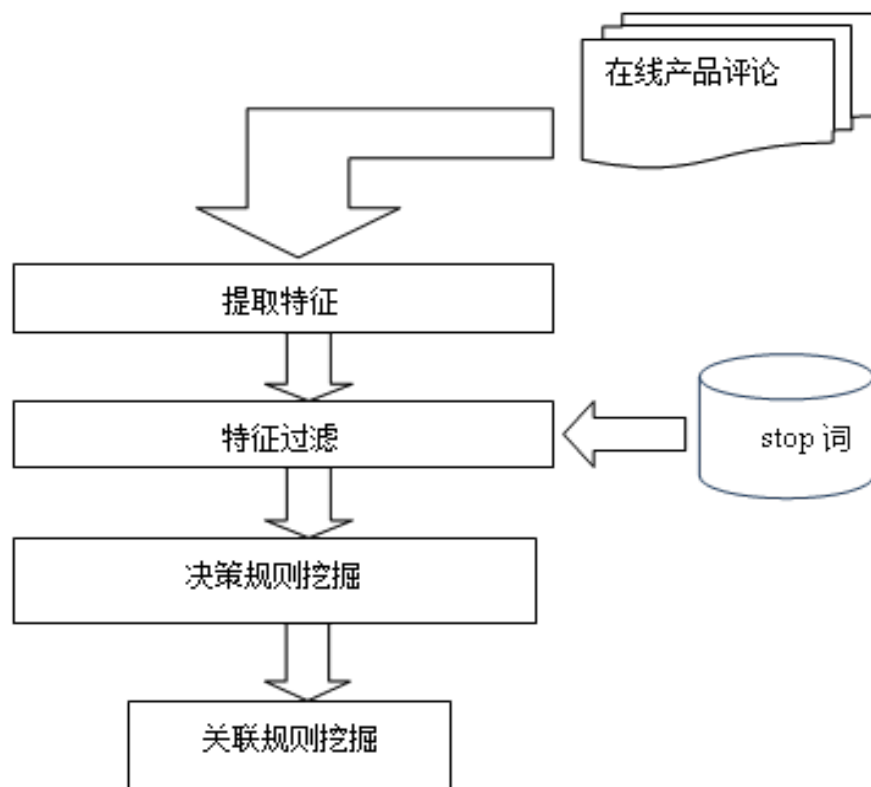
案例讨论

- 顾客对某种具体的mp3关注哪些主题？顾客对这些主题的具体偏好是什么？
- 对于购物网站，可了解哪些商品、哪些属性受顾客群欢迎？安排采购和商品展示。
- 对于商品的制造厂商，利用上述分析，改善设计和产品销售。

研讨（1）

- 阅读下面论文，讨论顾客对商品的评论与评分之间的关联规则应用价值：
- Wingyan Chung, Tzu-Liang Tseng. Discovering business intelligence from online product reviews: a rule-induction framework. Expert Systems with Applications, 2012, 39(15): 11870-11879

研讨 (2)



- 挖掘出的关联规则格式如下：“文本关键词1、文本关键词2、.....、文本关键词n=>评论等级”，例如对于商品“**scooter**”的评论，可以挖掘出关联规则“fun, kids(7)=>5(6,0.857)”，
“**fun, easy, great** (12)=>5(12,1)”，从中可以看出该商品操作简单，给小孩子带来乐趣，商家就可以把商品推荐给有小孩的客户。

思考

- 一些学术问题：
- 社会化网络的信任传播模型
- 社会化网络对顾客购买心理的影响机理研究

SPSS Text Analytics for Surveys

[System requirements](#)
[Library](#)
[Success stories](#)
[Training and certification](#)
[Services](#)
[Trials and demos](#)
[How to buy](#)
[Support](#)
[IBM Software](#) > [Business analytics](#) > [SPSS](#) > [SPSS Statistics](#) > [SPSS Text Analytics for Surveys](#) > [Trials and demos](#) >

SPSS Text Analytics for Surveys

Trial download for version 4.0.1

IBM® SPSS® Text Analytics for Surveys uses powerful natural language processing technologies specifically designed for survey text. It leads the way in unlocking open-ended responses for better insight and statistical analysis. The evaluation period begins on the date that you agree to the terms of the agreement.

- [Review systems requirements](#)
- [Learn more about the product](#)

Information Management

Ready to buy?

[→ View pricing & buy](#)

Related trials

[→ SPSS Data Collection](#)

Related resources

[→ SPSS Text Analytics for Surveys Product Information](#)
[→ SPSS Statistics Products](#)
[→ SPSS Text Analytics for Surveys Data Sheet](#)
[→ Analyzing Survey Text: A Brief Overview](#)
[→ How to get more value from your survey data](#)
[→ Get Adobe® Reader®](#)

SPSS Text Analytics for Surveys, V4.0.1 available packages

Operating systems	Languages	Min. sizes
<input type="radio"/> Windows 7 Home Premium, Windows 7 Professional, Windows Vista Business, Windows Vista Enterprise, Windows Vista Home Basic, Windows Vista Home Premium, Windows XP Home, Windows XP Professional, Windows 7 Enterprise : IBM SPSS Text Analytics for Surveys for Trial 4.0.1 Windows Multilingual eAssembly	Dutch, English, French, German, Spanish	

After you have read the [systems requirements](#), please select 'Continue' to log in to your IBM account or to register to download the package.

[Continue](#)

软件和实验指导书

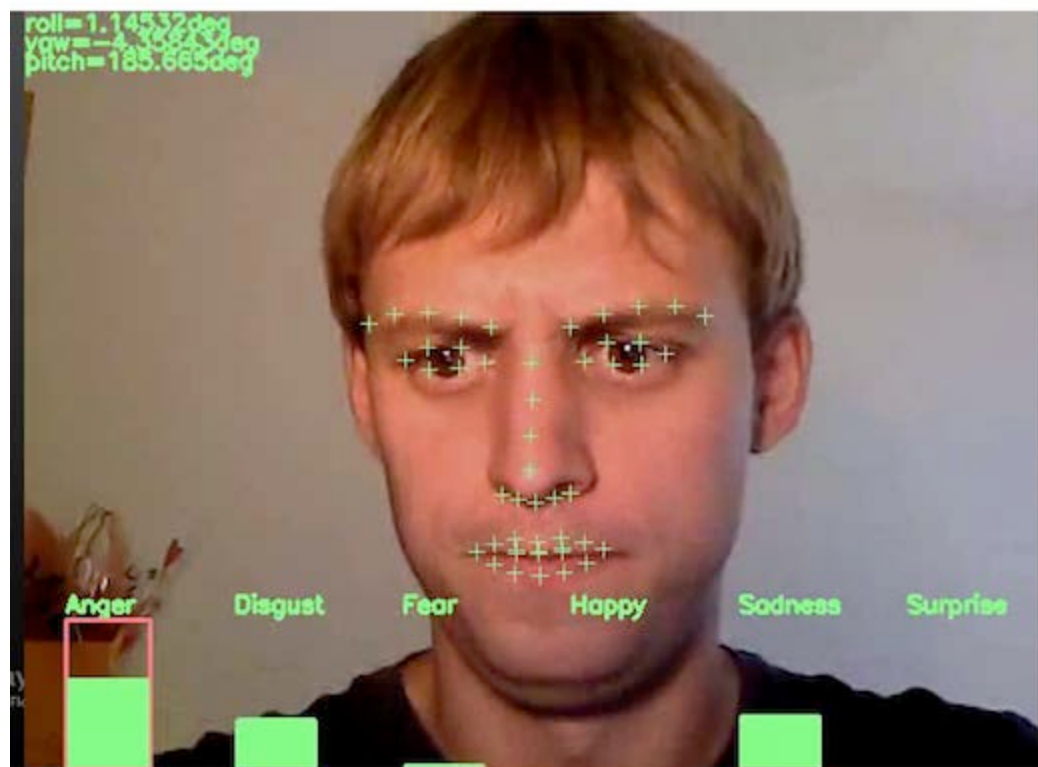
- 软件SPSS Text Analytics for Surveys下载地址：
http://www14.software.ibm.com/download/data/web/en_US/trialprograms/P254879Q17958R48.html
- 实验指导书： <http://61.129.34.202/BIweb/SPSS Text 0Analytics.pdf>

议程

- 社会化网络的发展
- 电子零售网站顾客商品评论分析
- 微博用户的情感分析

情感分析技术

- 通过“电脑的眼睛”来阅读人的面部表情，然后通过计算分析出人的情感（情绪反应）
- 商业价值？
- <http://docs.realeyesit.com/demo/?v=emotions>





- 分析新浪微博用户对某些事件或新闻的情感：高兴、低落、愤怒和厌恶等
- 商业价值：舆情监控、客户体验分析还有？
- <http://xinqings.nlsde.buaa.edu.cn/>

国五条

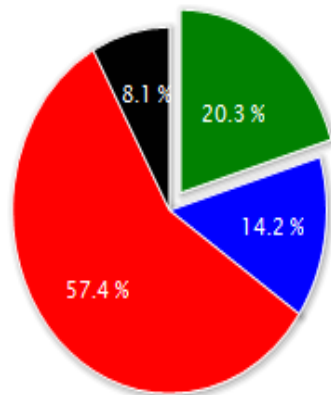
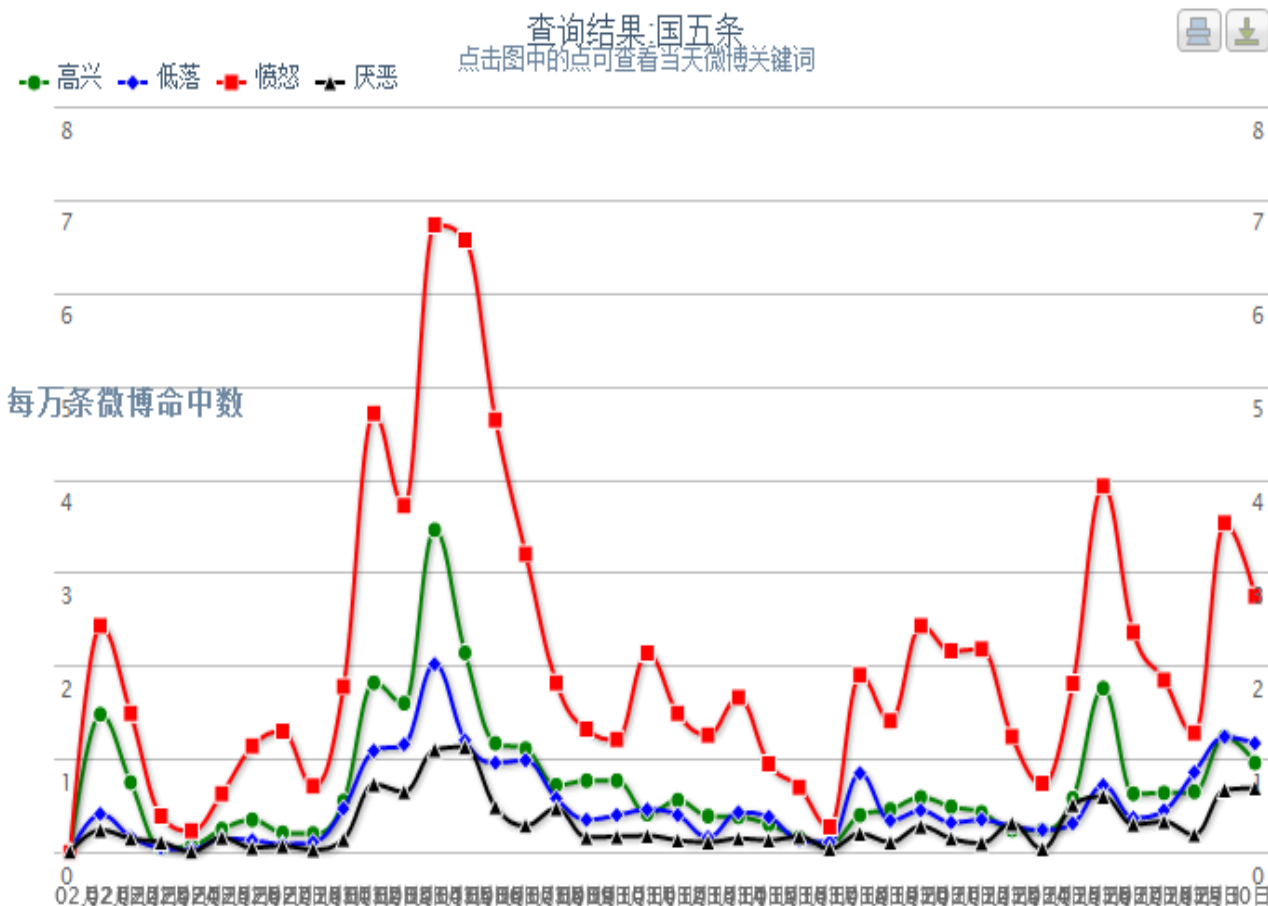
近期

全部

实时	意甲	拜仁	英超	颈椎	黑帮	更多>>
财经	淘宝	地产	房产	VC	IPO	更多>>
时尚	宝马	奔驰	奥迪	欧莱雅	大宝	更多>>
生活	美的	青春	减肥	苹果	美团网	更多>>
游戏	梦想	我们的	奥特曼	剑网3	eve	更多>>
体育	卡卡	法国	德国	意大利	俄罗斯	更多>>

[返回首页](#)[返回类别](#)[查看全部](#)[查看近期](#)

02月20日至03月31日



高兴 低落 愤怒 厌恶

北京国五条调控细则出台 单身人士禁购二套房

北京国五条调控细则出台 禁单身人士购买二套房

北京国五条细则:单身人士限购一套 个税20%计征

北京出台“国五条”细则:单身人士禁买二套房

北京国五条细则出台 京籍单身人士禁买二套房

更多03月31日新闻

微博关键词

03月31日

全部

地方,细则 细则,出台 北京国五条,细则

二套房,单身,限购,个税,20%,计征

研讨1：识别社会化网络的意见领袖

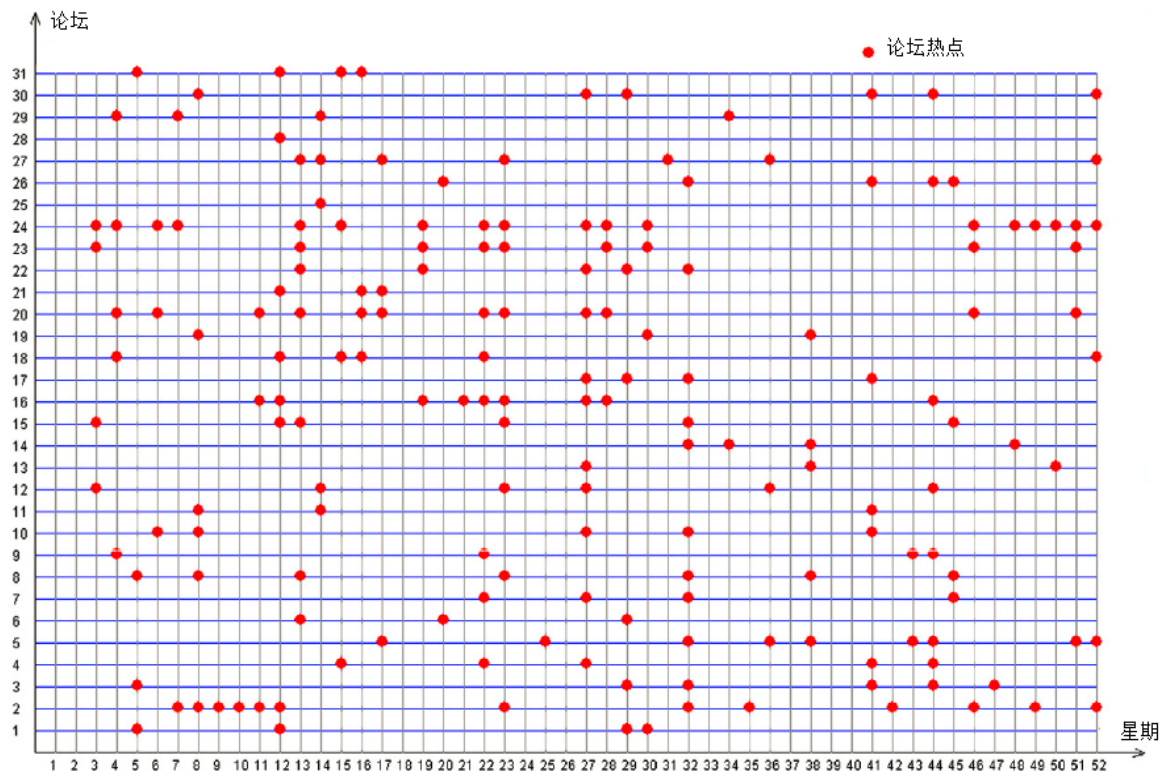
- 在社会化网络中，意见领袖能够在真实的社会中影响用户。可以用下面的公式识别具有意见领袖：

$$U_s = \frac{\sum_{i \in A} R_U(i) - R_\mu(i)}{|\text{Con}|}$$

- 其中**Con**是内容（例如音乐、电影等）集合，**U**是用户集合，**|Con|**是**Con**的数量，是**U**中的用户对于内容*i*的评价，是用户对*i*的平均评价值。上式说明每个用户评价和平均评价的近似程度，选择与平均评价最不近似的用户作为意见领袖。通过对**Yahoo!** 音乐数据库（包括音乐、用户和评论等数据）和**GroupLens**电影数据库（包括电影、用户和评论等数据）的实验。
- 意见领袖有很多价值，其中一个应用是网络营销。意见领袖的微博很容易引导人们关注，因此可以在意见领袖的微博上投放广告。

研讨2：检测在线论坛热点

- 首先，分析每个论坛帖子的情感倾向（**emotional polarity**）。然后利用依据帖子情感倾向聚类，每个聚类中心对应一个论坛热点。



谢谢

