Social network analysis of discussion forum data

WANG Hao

- •Forum Data
- Clustering Structure
- Topic Modeling
- Conclusion

Forum data

-					
course	#users	#posts	#threads	#forum	#comments
stschina1	835	1718	268	9	1033
newchinahistory1	1138	2641	434	12	1963
gastronomy	3725	9105	1474	14	6088

Tree view

General Discussion

An Introduction to Science and Technology Studies, by Sergio Sismondo

Wondering if there's an accessible copy of Sismondo within Coursera?

Don't particularly want to buy the whole book just in order to read p. 1-11 next week.

Did a google search, found several places that would let you read the latter part for free but version?

I agree. We may need some people with Academic reach to these documents.

Yeah, other courses will provide **open online resources** even it's optional readings. Unti instructors will provide it until the formal opening of the course. I think **course staffs**

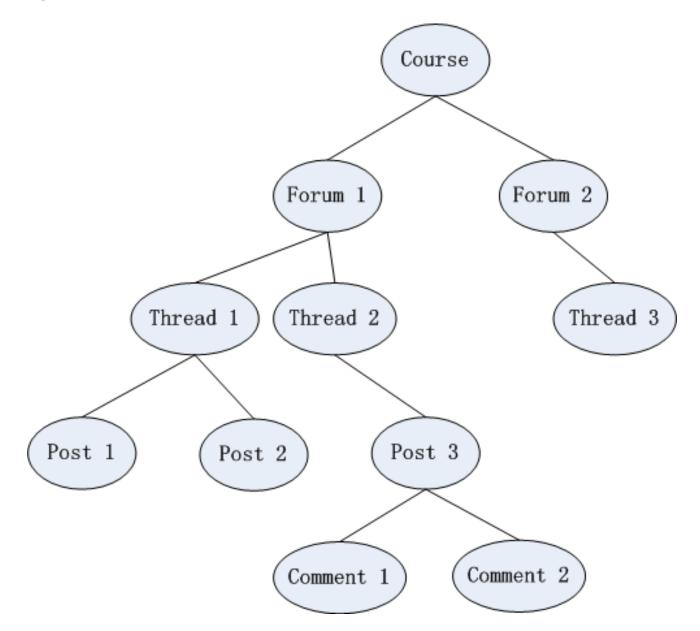
It is not usual practice on these courses to require reading of text which are not publicly, f Even learned papers are usually to be found behind a paywall and are out of reach of the bulk

If the text is not accessible, the bulk of students will be unable to complete the reading ass

I wan't be able to buy this book before the course starts. Could someone scan those 11 pages a

Hello ! What about that?

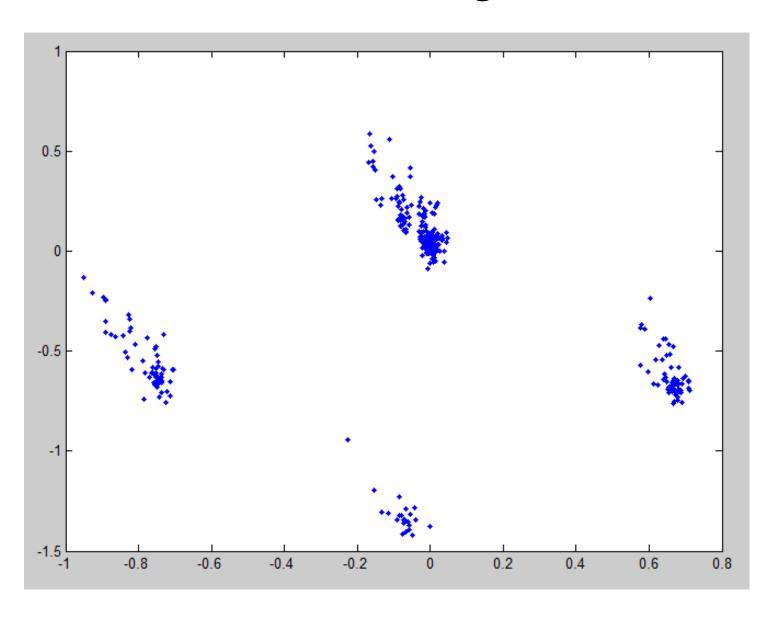
Tree view

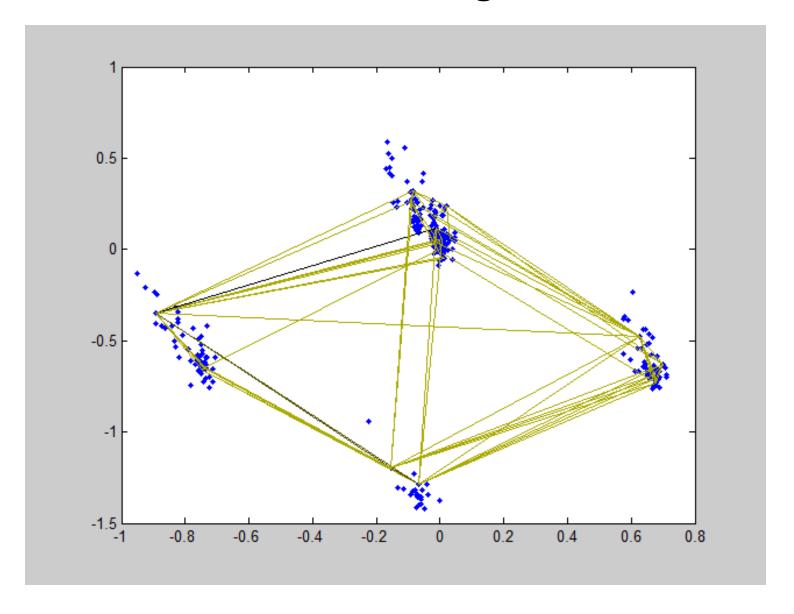


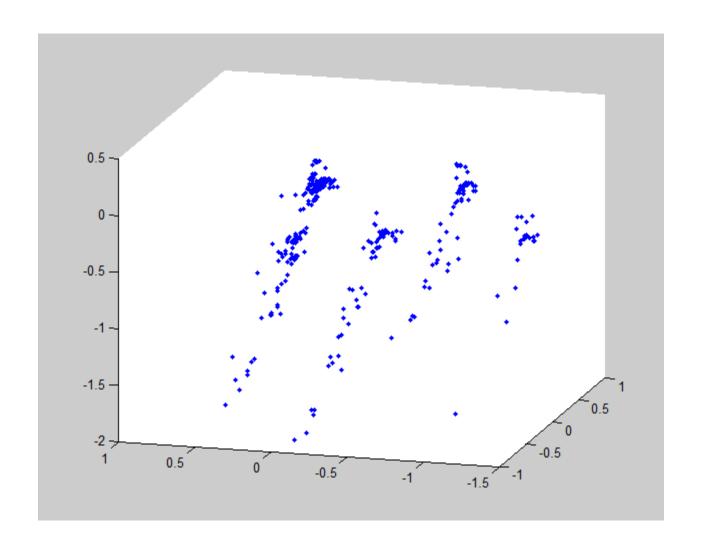
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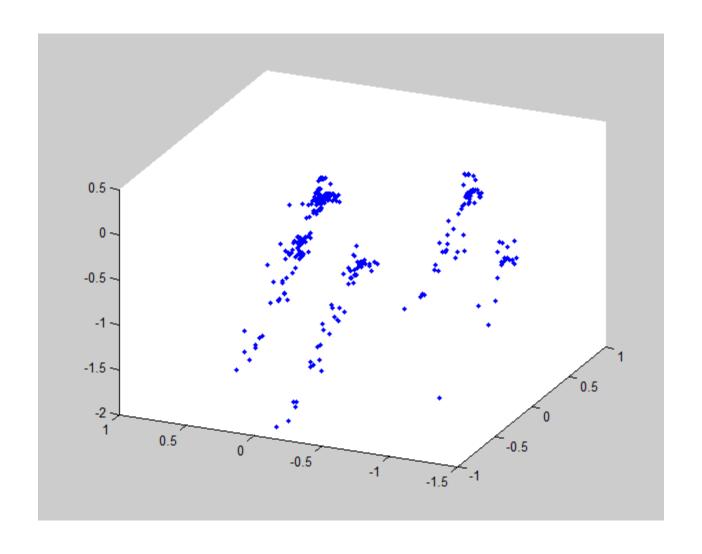
Clustering using PCA

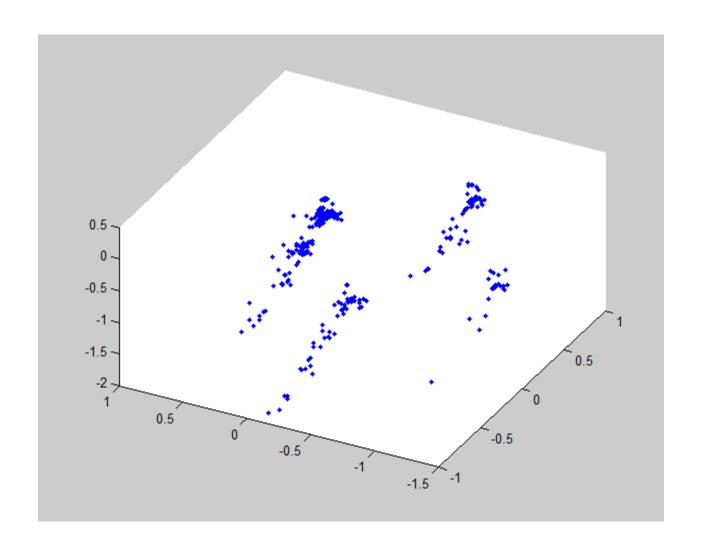
Thread	1	2	3	4	5	6
1		1				1
2						
3					1	
4	1		1			
5			1		1	

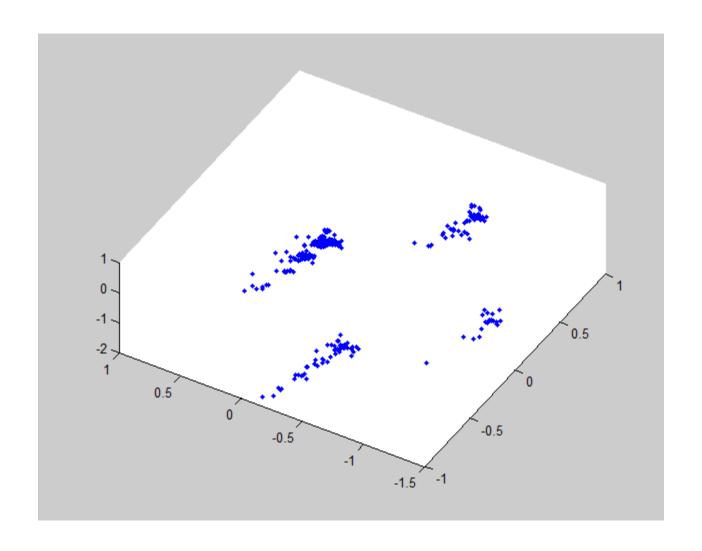


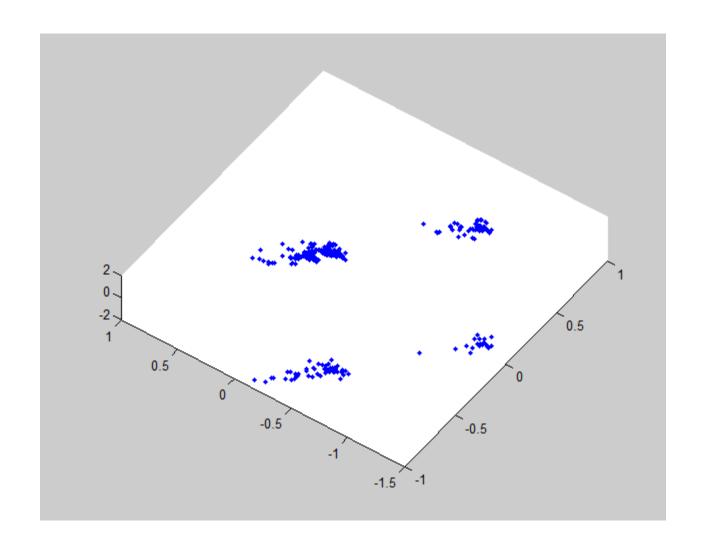




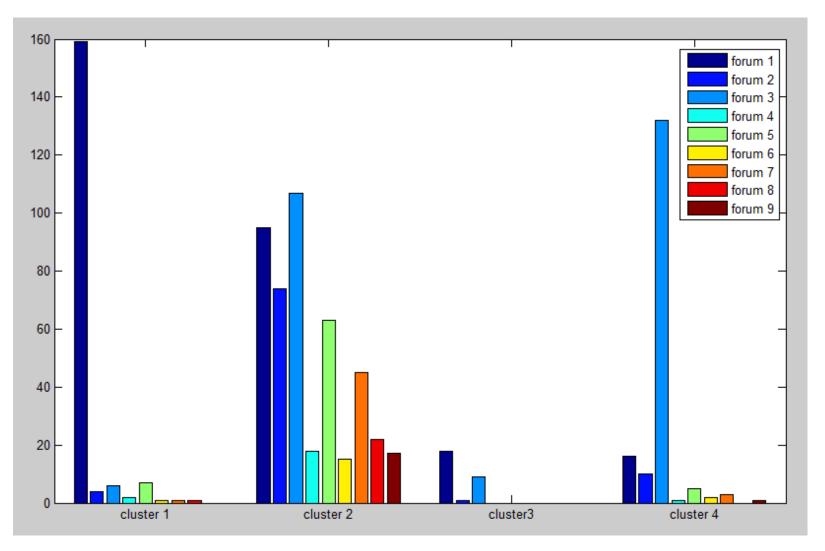








Forum distribution



User type – cluster 1

Passionate, outgoing, helpful sometimes talking about serious questions

User 80e5db41946a6463192efc416acddb63bc450480

Post 516: As a scientist, don't you think

Post 402: I am taking this course because

Post 404: Jos Muyres found a download on the Wiley site.

The address is

Post 407: Hi Everyone. My name is Barbara

User type – cluster 2

Less outgoing,
Almost always talking about serious questions

User 7643d42794487a9214c9a1e206ea7076bad0ab31

Post 1465: Innovation being the practice of

Post 1688: Many/most modern products require

Thread 77: The idea that the world was

Thread 80: I have a major concern with

User type – cluster 3

Passionate, not very helpful, hardly talking about something productive

User 95424a76f82f273fc03f5fb587ebc4de3f1357c8

Post 34: Hello! I am Chamath. I am in St. Paul

Post 47: Hi Andy. I'm Chamath in St. Paul

Post 822: Thanks Linda, for the instructions and the

Post 1222: How do I join the group

User type – cluster 4

Passionate, not very helpful,
hardly talking about serious stuff
sometimes talking about things that are non-lecture-related but interesting

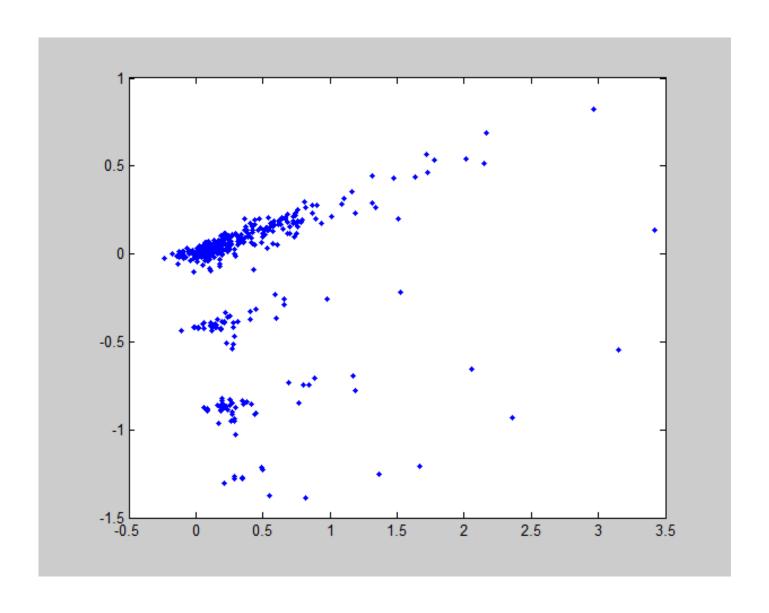
User 3c224926ee2ec05205f3c21ba2914f787e5bfa03

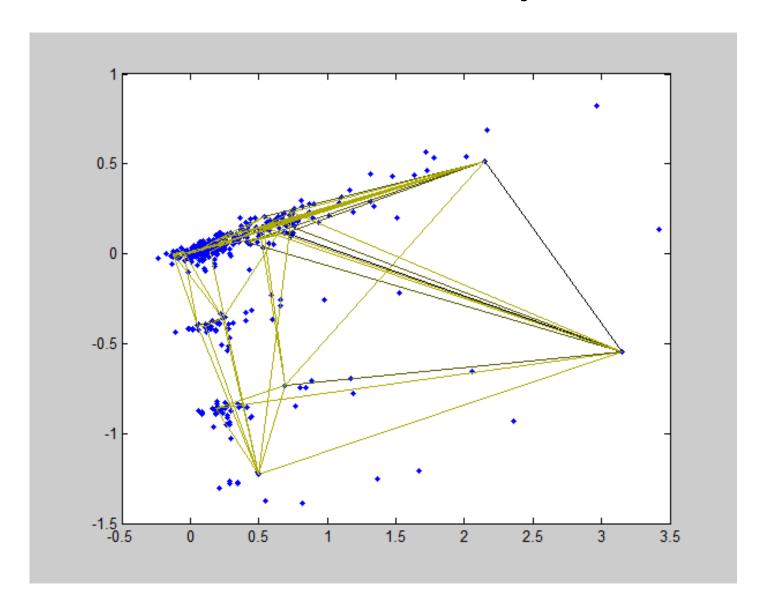
Post 44: I am Julia from near Leeds in the UK

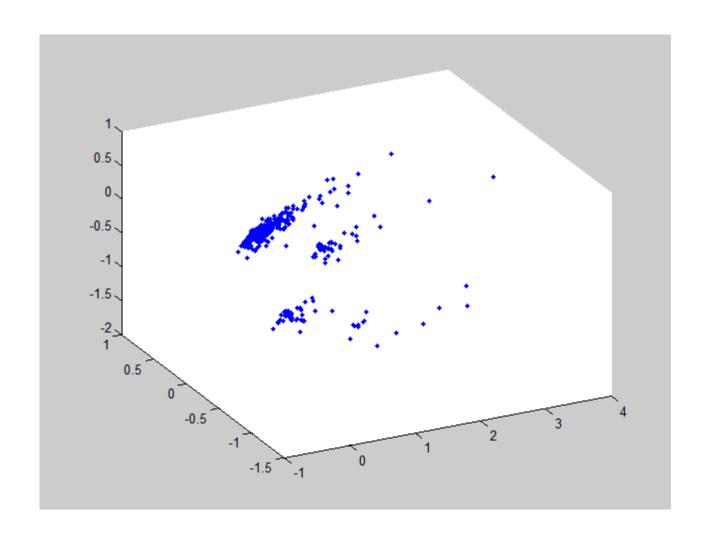
User 3c224926ee2ec05205f3c21ba2914f787e5bfa03

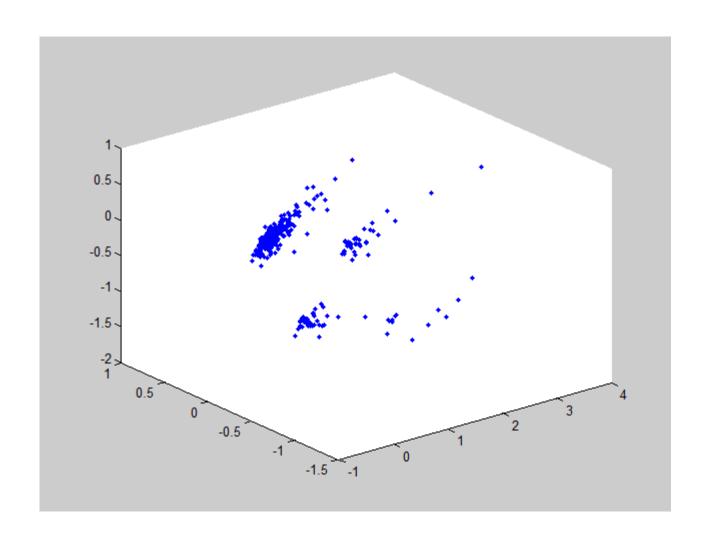
Post 107: what does the tag say in countries where English is not spoken?

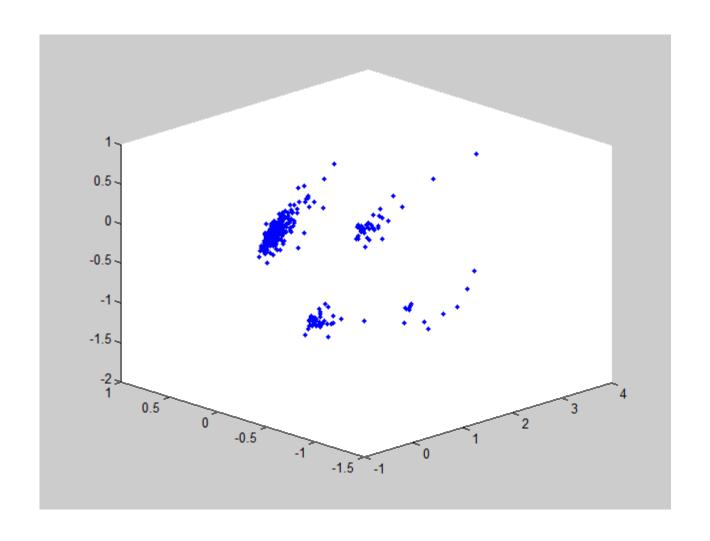
Post 121: Good to learn from a professor who works there.

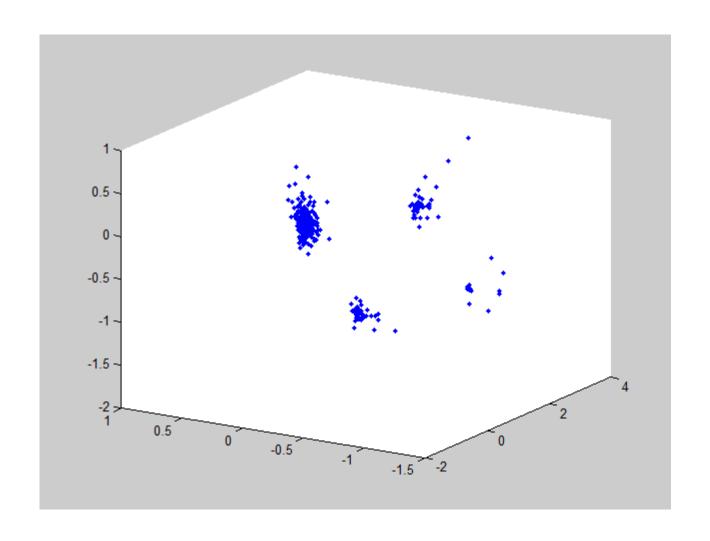


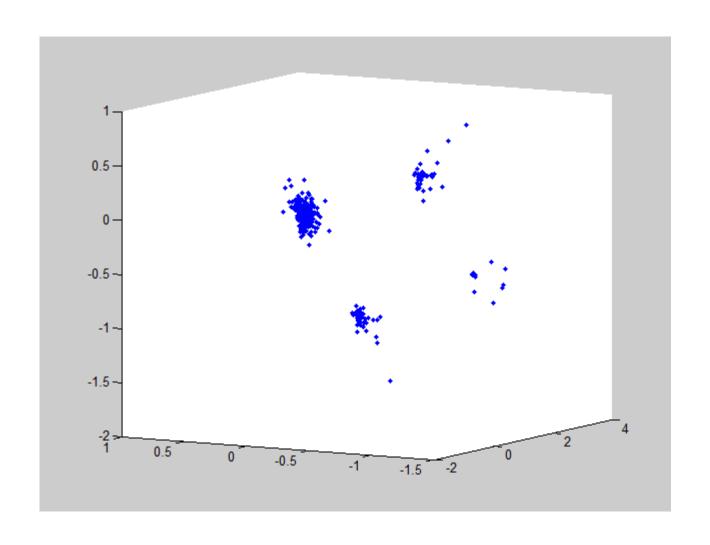


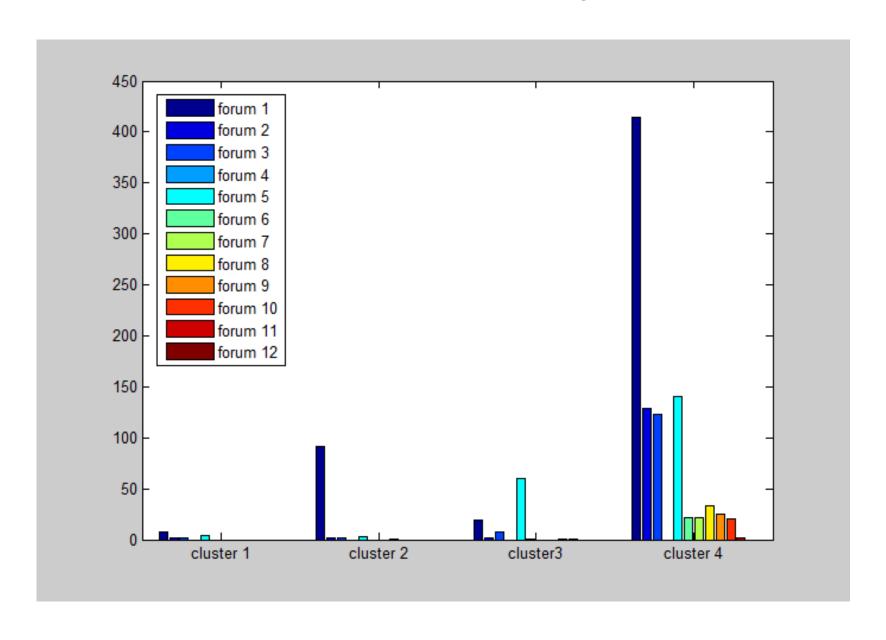


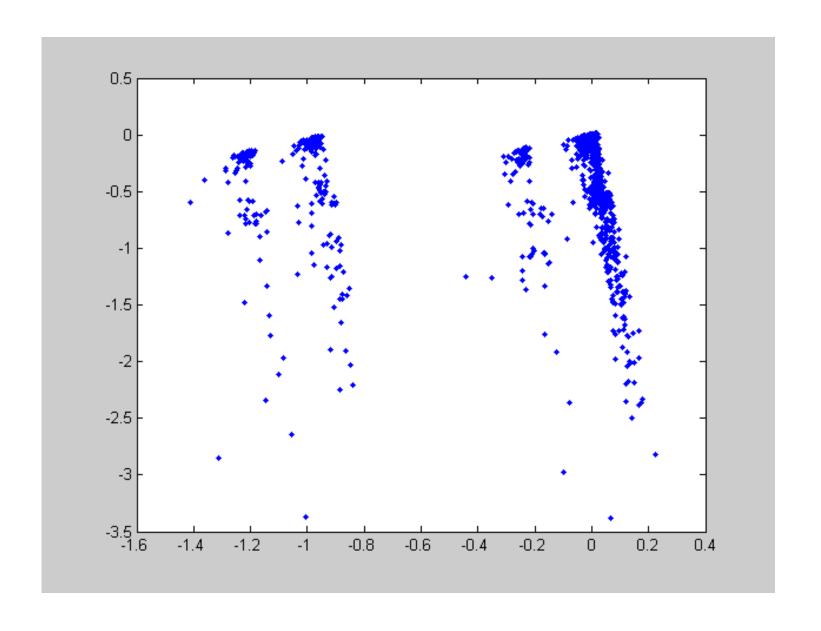


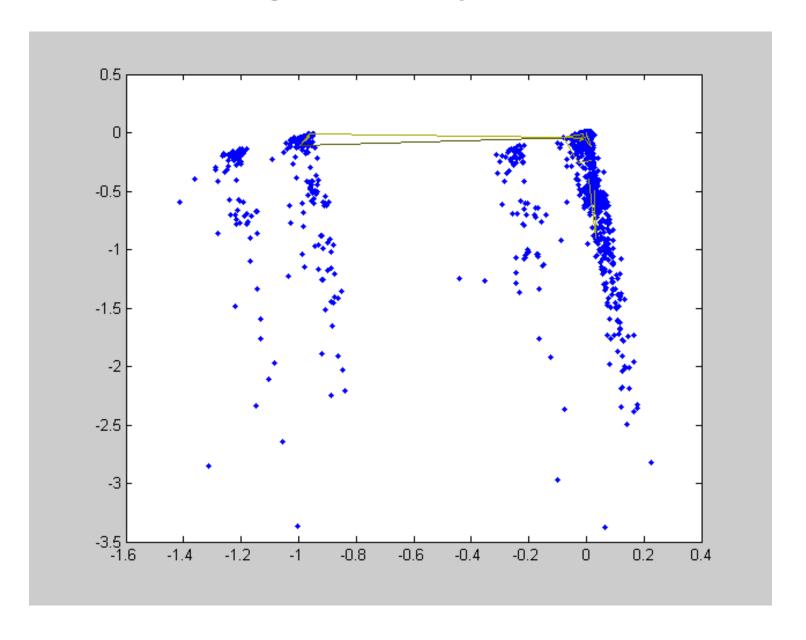


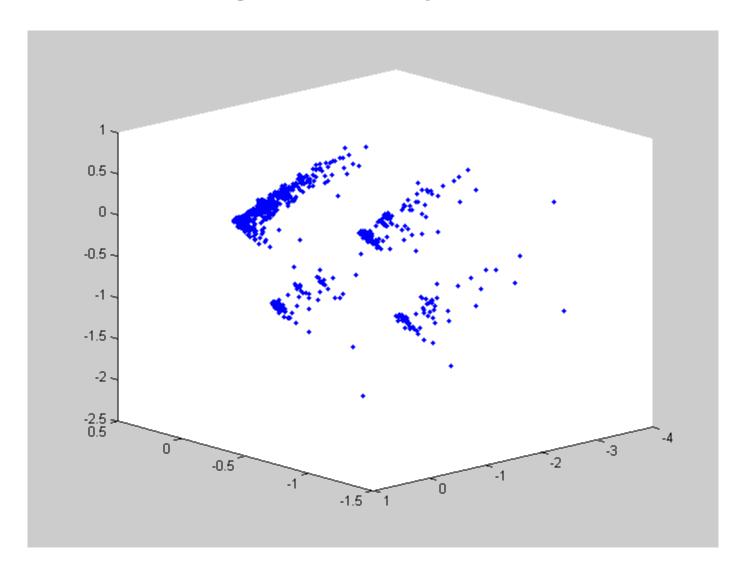


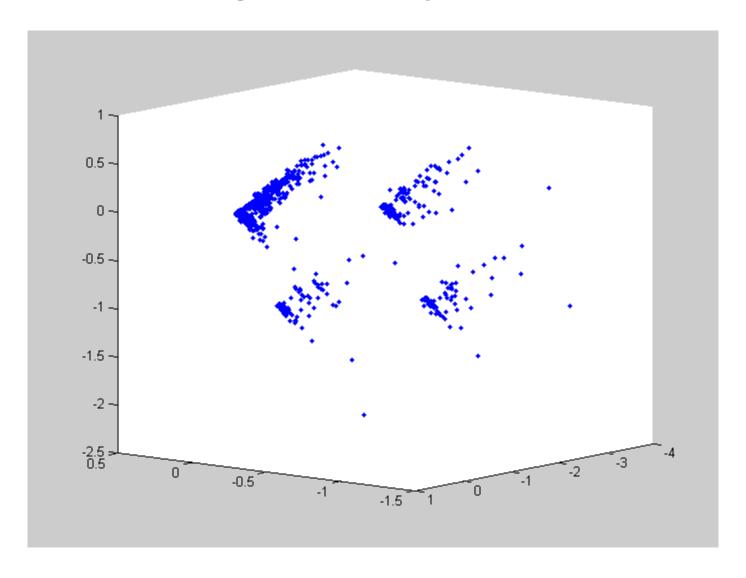


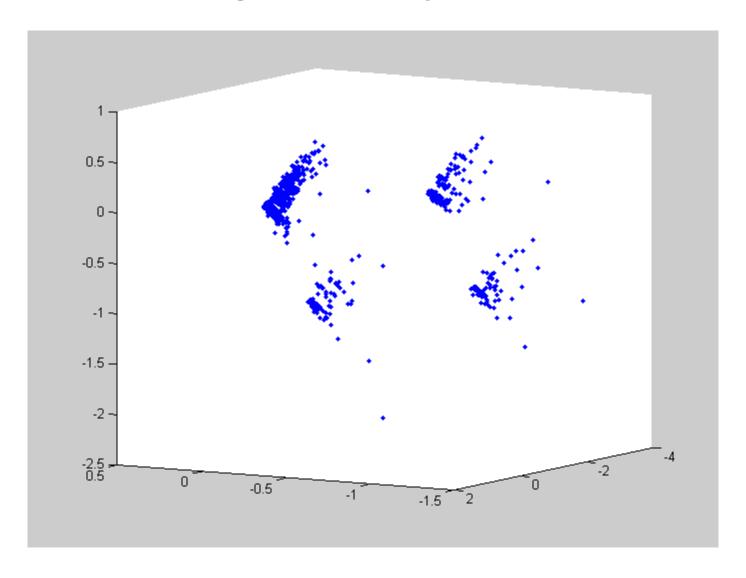


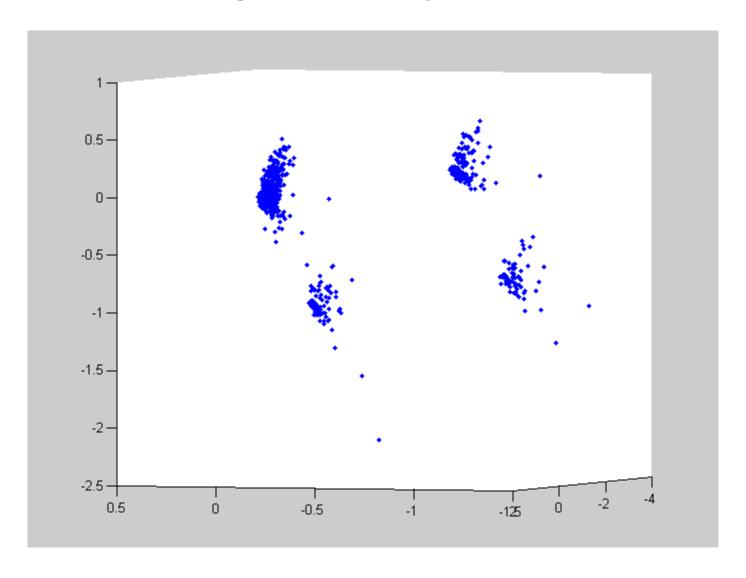


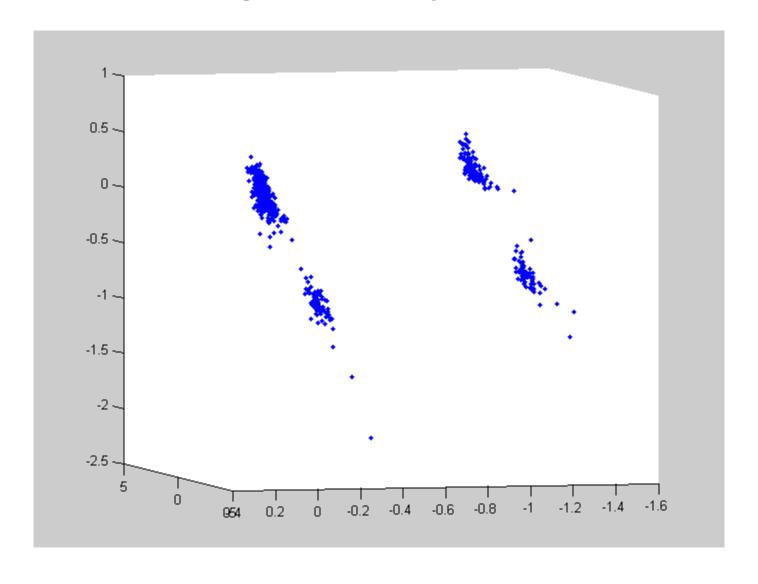


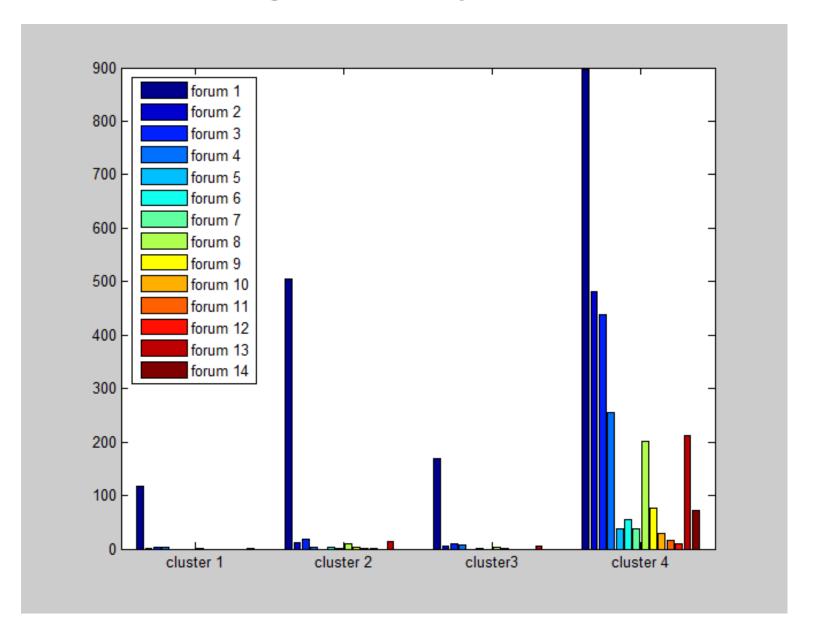








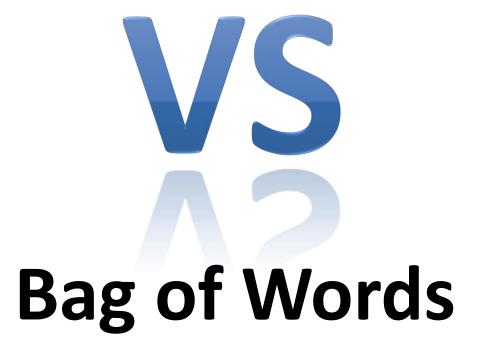




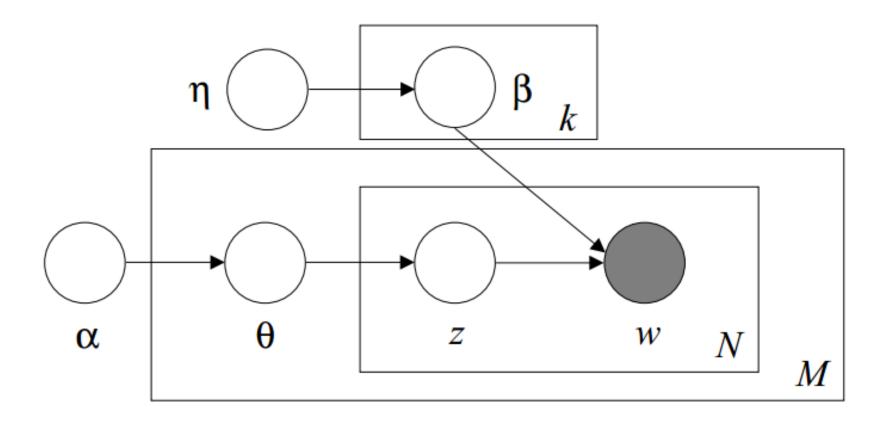
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Topic modeling

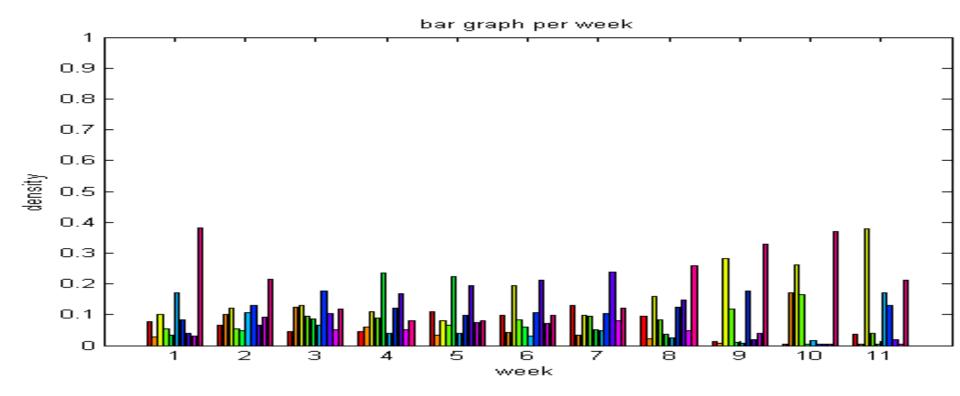
Latent Dirichlet Allocation



LDA



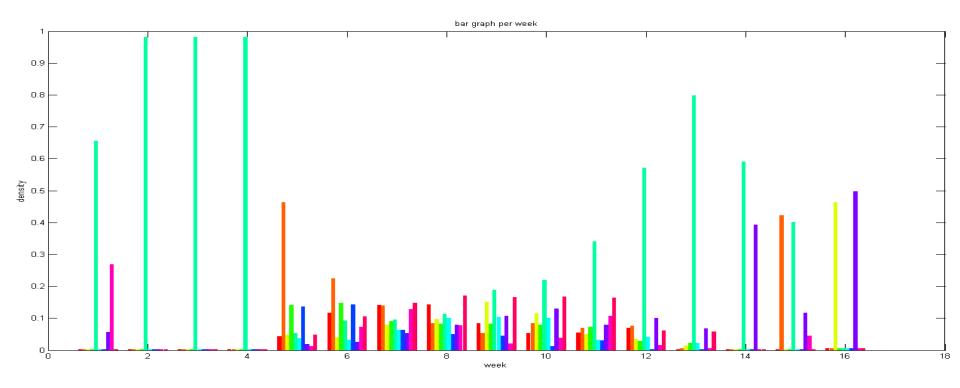
LDA for gastsci



LDA for gastsci

```
'cook' 'cours' 'scienc' 'food' 'learn' 'love' 'new' 'recip' 'interest'
'cook' 'cours' 'scienc' 'food' 'learn' 'love' 'new' 'recip' 'interest'
'chocol' 'assign' 'would' 'time' 'wine' 'tongu' 'meal' 'question' 'experi'
'food'
       'color' 'like' 'think' 'green' 'sweet' 'red' 'fruit' 'sour'
'food' 'color' 'like' 'think' 'green' 'sweet' 'red' 'fruit' 'sour'
'dish'
      'add' 'meat' 'use' 'salt' 'cook' 'oil' 'sauc' 'fri'
       'add' 'meat' 'use' 'salt' 'cook' 'oil' 'sauc' 'fri'
'dish'
'cook' 'cours' 'scienc' 'food' 'learn' 'love' 'new' 'recip' 'interest'
              'scienc' 'food' 'learn' 'love' 'new' 'recip' 'interest'
'cook'
      'cours'
'cook' 'cours' 'scienc' 'food' 'learn' 'love' 'new' 'recip' 'interest'
'thread' 'video' 'quot' 'post' 'forum' 'cours' 'lectur' 'week' 'scigast'
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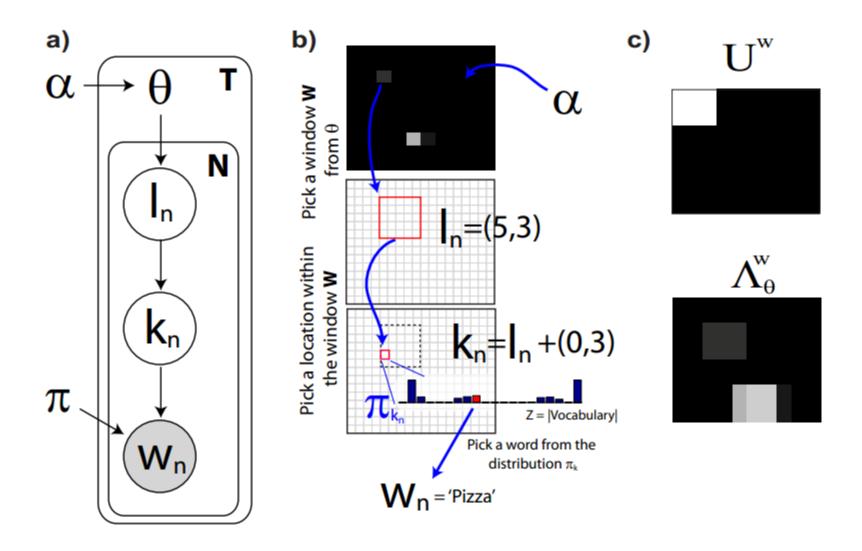
LDA for stschina1

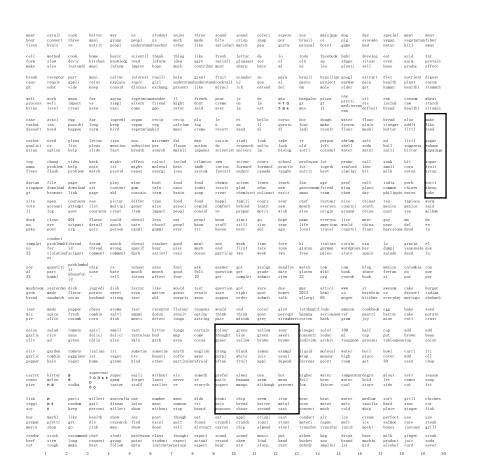


LDA for stschina1

'accian'	'arada'	ln o o ri	loourd	loccovi	'roguest'	'rograd'	'ovalu!	'ward!
'assign'	'grade'	'peer'	'cours'	'essay'	'request'	'regrad'	'evalu'	'word'
'assign'	'grade'	'peer'	'cours'	'essay'	'request'	'regrad'	'evalu'	'word'
'assign'	'grade'	'peer'	'cours'	'essay'	'request'	'regrad'	'evalu'	'word'
'assign'	'grade'	'peer'	'cours'	'essay'	'request'	'regrad'	'evalu'	'word'
'im'	'studi'	'cours'	'name'	'everyon'	'meet'	'chines'	'take'	'hope'
'im'	'studi'	'cours'	'name'	'everyon'	'meet'	'chines'	'take'	'hope'
'video'	'lectur'	'assign'	'week'	'cours'	'submit'	'time'	'downloa	d' 'late'
'video'	'lectur'	'assign'	'week'	'cours'	'submit'	'time'	'downloa	d' 'late'
'assign'	'grade'	'peer'	'cours'	'essay'	'request'	'regrad'	'evalu'	'word'
'assign'	'grade'	'peer'	'cours'	'essay'	'request'	'regrad'	'evalu'	'word'
'assign'	'grade'	'peer'	'cours'	'essay'	'request'	'regrad'	'evalu'	'word'
'assign'	'grade'	'peer'	'cours'	'essay'	'request'	'regrad'	'evalu'	'word'
'assign'	'grade'	'peer'	'cours'	'essay'	'request'	'regrad'	'evalu'	'word'
'assign'	'grade'	'peer'	'cours'	'essay'	'request'	'regrad'	'evalu'	'word'
'im'	'studi'	'cours'	'name'	'everyon'	'meet'	'chines'	'take'	'hope'
'innov'	'system	ı' 'alterr	n' 'mode	l' 'approa	ach' 'one'	'lineaı	r' 'techno	olog'
'advantag'	I							

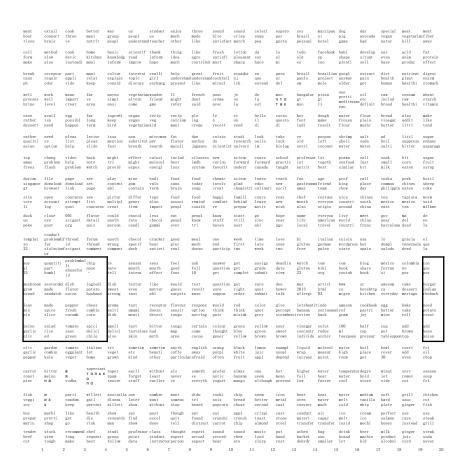
Componential Counting Grids





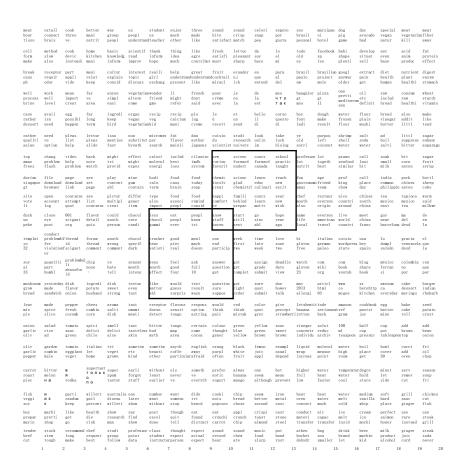
make
like
tend
sugar
enhanc
asparagu
sugar
fruit
syrup
bottl
sheep
coke

colour	green	yellow	sour
thought	blue	green	sweet
gener	yellow	brown	brown
orang	black	lemon	exampl
purpl	white	juic	usual
often	fruit	appl	depend
prefer	alway	one	hot
notic	banana	seem	mean
yogurt	mango	although	prevent
cooki	chip	seem	iron
nois	bread	better	metal
popcorn	chose	second	cast



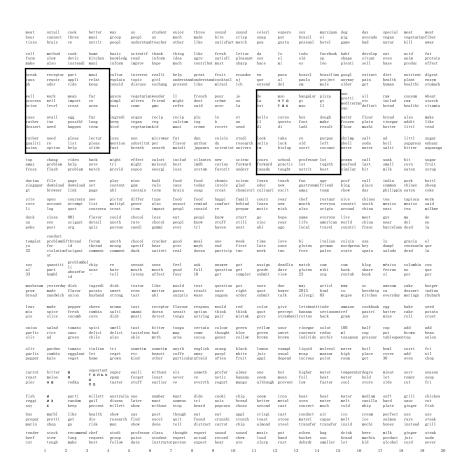
soy al 33	quantiti part humbl	problembul li abusefor id	chip nose -
mushroom	yesterday	dish	ingredi
grow	made	flavor	potato
bread	sandwich	onion	husband
leav	made	pepper	chees
mix	spice	fresh	combin
pie	slice	cucumb	corn
onion	salad	tomato	spici
garlic	rice	sauc	delici
oliv	ad	green	chile

con
que
por
burger
indian
rhubarb
seed
potato
crust
add
bean
onion



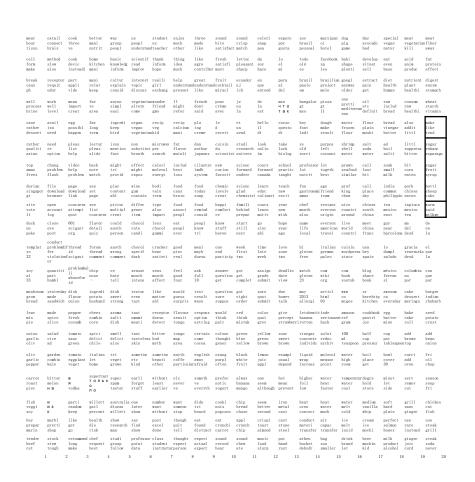
new	scienc	cours	school
curiou	forward	forward	practic
favorit	underr	canada	taught
chemic	scienc	learn	teach
involv	glad	educ	new
creat	chemistri	culinari	excit
happi	famili	cours	year
comfort	behind	learn	new
re	prepar	motiv	wish
know	start	go	hope
stuff	still	sinc	year
haven	next	abl	ago

less	eat	peopl	know
chocol	peopl	know	stuff
gummi	ever	tri	haven
cracker	good	meal	one
bear	piec	mayb	end
satieti	real	doesn	particip
sens	feel	ask	answer
mouth	good	full	question
affect	four	10	get
like	would	test	question
matter	guess	result	sure
abl	surpris	wasn	suppos



break	receptor	part	mani
caus	requir	appli	relat
ph	odor	vide	keep
well	work	mean	far
process	well	import	ve
brine	level	creat	area
case	avail	egg	far
rather	isn	possibl	long
dessert	need	happen	term
rather	need	pleas	lectur
qualiti	re	list	pleas
asian	option	help	slide

de	mso	bangalor	pizza
la	что	gt	gt
est	так	mso	11
hello	corso	boy	dough
il	questo	font	make
di	di	ladi	result
look	take	ye	purpos
onlin	luck	old	left
im	biolog	sorri	coconut
cours	school	professor	lot
forward	practic	lot	togeth
canada	taught	nutrit	best



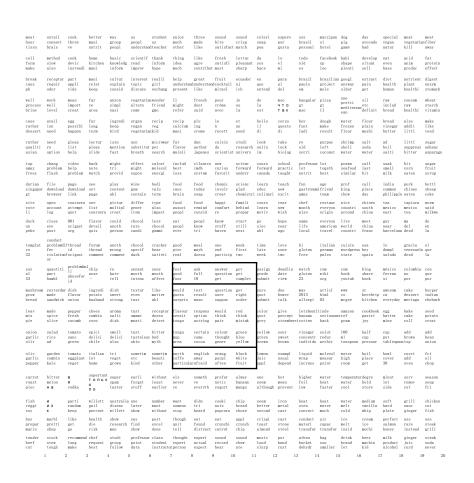
make like tend

sugar enhanc asparagu

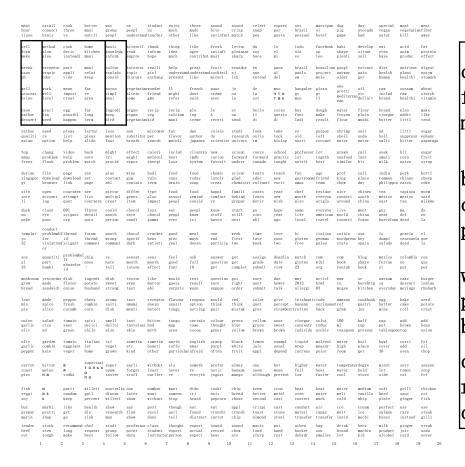
sugar fruit syrup

bottl sheep coke

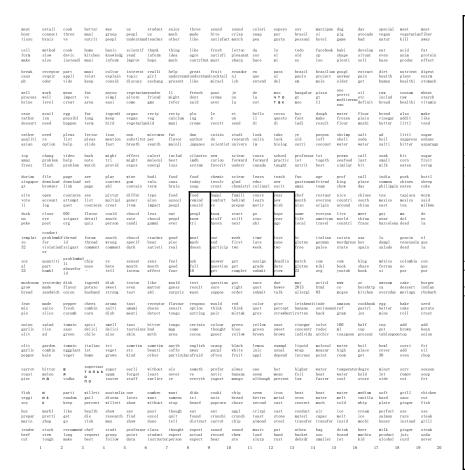
worm said milkwe



feel	ask	answer	got
good	full	question	get
four	10	get	complet
would	test	question	got
guess	result	sure	right
surpris	wasn	suppos	order
flavour	respons	would	red
sensit	option	think	think
tongu	astring	pair	mistak
tongu	certain	colour	green
map	come	thought	blue
area	cocoa	gener	yellow
anyth coffe particula r	english away afraid	orang purpl often	black white fruit



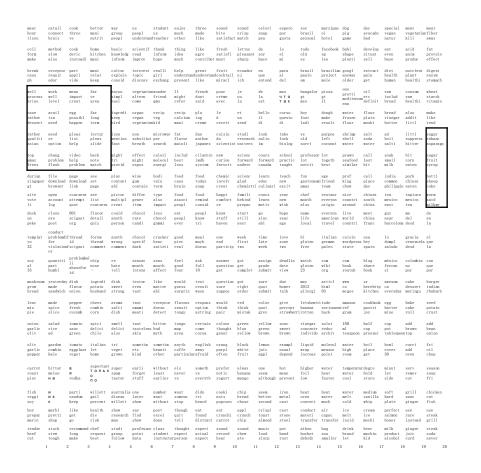
cell	method	cook		basic
form	slow	devic		knowledg
make	also	insteadi		inform
break	receptor	part	mani	cultur
caus	requir	appli	relat	explain
ph	odor	vide	keep	consid
well	work	mean	far	anyon
process	well	import	ve	simpl
brine	level	creat	area	easi
case	avail	egg	far	ingredi
rather	isn	possibl	long	keep
dessert	need	happen	term	bird



food		famili	cours	year
remind		behind	learn	new
consid		prepar	motiv	wish
peopl	know	start	go	hope
know	stuff	still	sinc	year
tri	haven	next	abl	ago
meal	one	week	time	love
mayb	end	first	late	zone
doesn	particip	two	week	two
ask	answer	got	•	deadlin
full	question	get		date
10	get	complet		view

meat hour tissu	oxtail connect brais	cook three ve	better mani nutrit	group peopl		student us iteacher	enjoy much other	three made like	sound bite satisfact	crisp match	celeri snap pea	por gusta	soy brasil pessoal	marzipan oi hotel	pig game	day avocado bad	special vegan natur	meat vegetaria kill	meat mfiber away
ell	method	cook	home	basic	scientif	thank	thing	like	fresh	lettuc	da	lo	todo	facebook	babi	develop	eat	acid	fat
orm	slow	devic	kitchen	knowledg	read	inform	idea	agre	satisfi	pleasant	soy	el	olá	sp	shape	situat	even	anim	protein
nke	also	insteadi	mani	inform	improv	hope	much	contribut	must	sharp	hace	mi	es	leo	plenti	sell	base	produc	effect
reak	receptor	part	mani	cultur	topic	realli	help	great	fruit	ecuador	en	para	brazil	brazilian	googl	extract	diet	nutrient	digest
aus	requir	appli	relat	explain		girl	understan	dunderstan	dcocktail	nj	que	al	paulo	project	anyway	pain	health	plant	enzym
ah	odor	vide	keep	consid		exchang	present	like	miracl	ich	entend	del	em	mole	older	get	human	healthi	stomach
well	work	mean	far	anyon	vegetarias	nwonder	ll	french	pour	je	de	mso	bangalor	pizza		oil	raw	consum	wheat
process	well	import	ve	simpl	altern	friend	might	dont	crème	ou	la	4 T O	gt	gt		etc	includ	raw	starch
prine	level	creat	area	easi	come	gmo	refer	said	avec	la	est	T 8 K	mso	11		definit	bread	healthi	vitamin
ase	avail	egg	far	ingredi		recip	recip	plu	le	et	hello	corso	boy	dough	water	flour	bread	also	make
rather	isn	possibl	long	keep		veg	calcium	ing	à	un	il	questo	font	make	frozen	plain	vinegar	addit	like
dessert	need	happen	term	bird		ikid	mani	creme	recett	send	di	di	ladi	result	flour	mushi	butter	littl	tend
rather	need	pleas	lectur	issu	non	microwav	fat	dan	cuisin	studi	look	take	ye	purpos	shrimp	salt	ad	littl	sugar
qualiti	re	list	pleas	mention	substitut	per	flavor	author	du	research	onlin	luck	old	left	shell	soda	boil	suppress	enhanc
ssian	option	help	slide	fast	breath	search	mainli	japanes	scientist	univers	im	biolog	sorri	coconut	water	water	salti	bitter	asparaj
top	chang	video	back	might	effect	calori	includ	cilantro	new	scienc	cours	school	professor	lot	prawn	call	soak	bit	sugar
maz	problem	help	note	tri	might	molecul	best	indb	curiou	forward	forward	practic	lot	togeth	seafood	last	small	corn	fruit
freez	flash	problem	watch	provid	expos	energi	loss	system	favorit	underr	canada	taught	nutrit	best	similar	bit	milk	eaten	syrup
durian	file	page	see	play	wine	bodi	food	food	chemic	scienc	learn	teach	fun	age	prof	call	india	pork	bottl
singapor	download	download	set	content	gum	valu	caus	today	involv	glad	educ	new	gastronom	friend	king	place	common	chines	sheep
gt	browser	link	page	abl	contain	term	brain	soap	creat	chemistri	culinari	excit	amaz	team	chow	day	philippin	eaten	coke
site	open	coursera	see	pictur	differ	type	food	food	happi	famili	cours	year	chef		nice	chines	tea	tapioca	worn
vote	account	attempt	list	multipl	gener	also	associ	remind	comfort	behind	learn	new	month		countri	south	mexico	mexico	said
li	log	quot	coursera	creat	item	impact	peopl	consid	re	prepar	motiv	wish	also		around	china	east	tea	nilkwe
duck	close	001	flavor	could	chocol	less	eat	peopl	know	start	go	hope	name		live	meet	guy	ma	de
un	eye	scigast	detail	anoth	rate	chocol	peopl	know	stuff	still	sinc	year	life		world	china	near	del	en
peke	post	org	quiz	person	candi	gummi	ever	tri	haven	next	abl	ago	local		countri	franc	barcelona	desd	la
templat yo 32	conduct problemdi fer violation or	id	forum thread comment	anoth wrong comment	chocol specif dark	cracker bear satieti	good piec real	meal mayb doesn	one end particip	week first two	time late week	love zone two	hi gluten free	italian german paleo	cuisin wordpress state	usa hey spain	lo dumpl saludo	gracia venezuela desd	el que la
soy al 33	quantiti part humbl	problembu li abusefor id	chip nose	re hate tell	sensat mouth intens	sens mouth affect	feel good four	ask full 10	answer question get	got get complet	assign grade submit	deadlin date view	watch gluten 23	com wiki org	com book youtub	blog share book	méxico ferran si	colombia no por	con que por
mushroom	yesterday	dish	ingredi	dish	textur	like	would	test	question	got	sure	due	may	articl	www	sr	awesom	cake	burger
grow	made	flavor	potato	sweet	even	matter	guess	result	sure	right	quot	howev	2013	html	co	herehttp	ca	dessert	indian
bread	sandwich	onion	husband	strong	tast	mbl	surpris	wasn	suppos	order	submit	talk	allergi	03	mcgee	kitchen	everyday	meringu	rhubar
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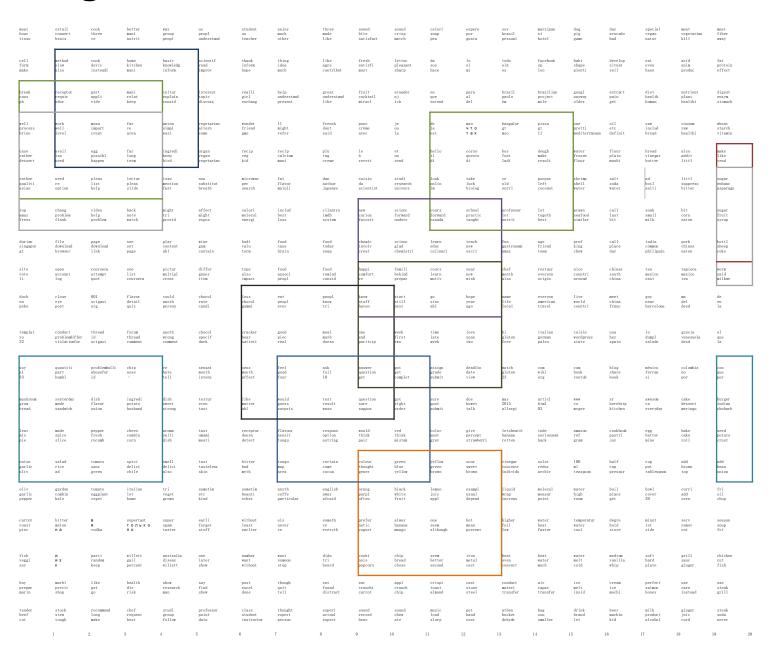
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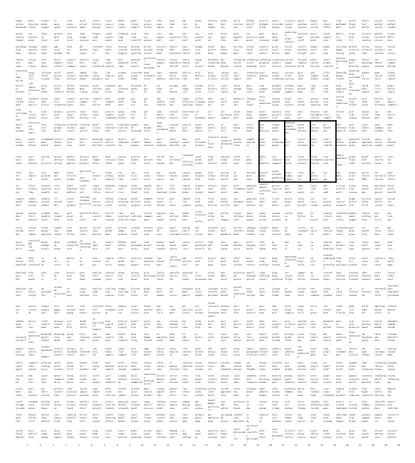
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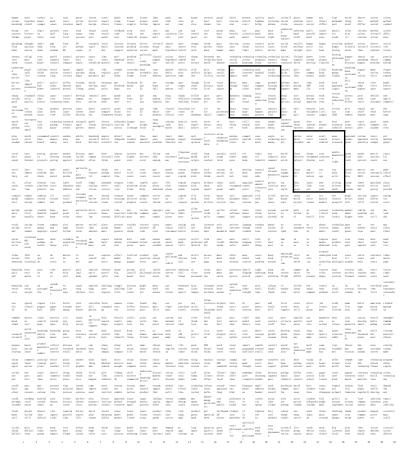


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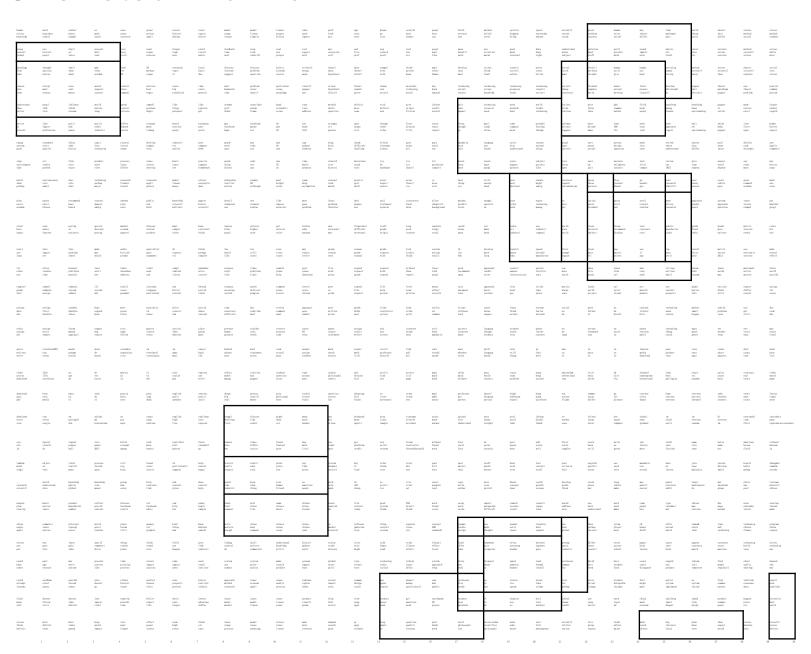
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- •Forum Data
- Clustering Structure
- Topic Modeling
- Conclusion

Possible future work

- post recommendation
 - click trajectory
 - social network
- peer grading
 - click stream and forum
- assigning reviewers
 - implicit social networks