f0001:

W_Fdic:

word	count	word	count	word	count	word	count
the	: 677	and	: 463	of	: 420	to	: 263
-rrb-	: 211	-lrb-	: 198	in	: 187	is	: 177
summarization	: 142	can	: 136	-lsb-	: 121	-rsb-	: 121
be	: 109	representation	: 104	pictures	: 93	representations	: 92
as	: 88	for	: 87	summary	: 85	text	: 82
different	: 77	space	: 63	are	: 63	it	: 62
that	: 62	by	: 56	semantic	: 52	texts	: 50
have	: 50	with	: 50	on	: 49	from	: 48
or	: 44	more	: 44	network	: 43	knowledge	: 43
language	: 42	dimensions	: 42	this	: 41	link	: 40
core	: 37	social	: 36	summaries	: 36	through	: 34
use	: 34	readers	: 33	an	: 33	should	: 33
understanding	: 32	between	: 32	form	: 31	citation	: 31
cognitive	: 30	time	: 30	important	: 30	into	: 29
such	: 28	videos	: 28	at	: 28	according	: 27
e.g.	: 27	following	: 26	et	: 26	some	: 26
research	: 26	video	: 26	new	: 25	level	: 25
not	: 25	one	: 25	set	: 25	structure	: 25
which	: 25	human	: 24	basic	: 23	humans	: 23
dimension	: 22	represent	: 22	summarizing	: 21	zhuge	: 21
methods	: 21	links	: 21	other	: 21	people	: 20
so	: 20	characteristics	: 20	sentences	: 20	used	: 20
's	: 19	al.	: 19	words	: 19	has	: 18
physical	: 18	reading	: 18	multi-dimensional	: 18	suitable	: 17
classification	: 17	summarize	: 17	multiple	: 17	general	: 17
cyberspace	: 16	principle	: 16	picture	: 16	may	: 16
papers	: 16	author	: 16	original	: 16	point	: 16
process	: 16	including	: 16	relations	: 16	like	: 16
summarizer	: 15	reader	: 15	automatic	: 15	been	: 15
these	: 15	same	: 15	scientific	: 15	help	: 15
appropriate	: 15	principles	: 14	complex	: 14	way	: 14
topic	: 14	data	: 14	when	: 14	its	: 14
systems	: 14	networks	: 14	development	: 14	meaning	: 14
relevant	: 14	because	: 14	concepts	: 13	then	: 13
make	: 13	forms	: 13	main	: 13	structures	: 13
method	: 13	various	: 13	each	: 12	enables	: 12
information	: 12	graph	: 12	natural	: 12	than	: 12
area	: 12	tags	: 12	select	: 12	paper	: 12
mental	: 12	idea	: 12	citations	: 12	location	: 12
approaches	: 12	know	: 12	but	: 12	provide	: 11
they	: 11	if	: 11	was	: 11	''	: 11
events	: 11	read	: 11	images	: 11	experience	: 11
fundamental	: 11	authors	: 11	2002	: 11	2008	: 11
implicit	: 11	2012	: 11	behaviors	: 11	graphs	: 11
selection	: 11	view	: 11	problem	: 11	extension	: 11
intention	: 11	represented	: 10	example	: 10	order	: 10

contents	: 10	previous	: 10	figure	: 10	cite	: 10
generated	: 10	what	: 10	hierarchy	: 10	generate	: 10
individual	: 10	input	: 10	users	: 10	existing	: 10
involved	: 10	2011	: 10	system	: 10	types	: 9
satisfied	: 9	organize	: 9	however	: 9	unified	: 9
regarded	: 9	abstract	: 9	usually	: 9	making	: 9
provides	: 9	retrieval	: 9	kind	: 9	common	: 9
analysis	: 9	...	: 9	2010	: 9	interests	: 9
also	: 9	every	: 8	render	: 8	quickly	: 8
interest	: 8	evolution	: 8	especially	: 8	many	: 8
researchers	: 8	organizing	: 8	small	: 8	particular	: 8
understand	: 8	source	: 8	include	: 8	society	: 8
summarizers	: 8	their	: 8	concerns	: 8	best	: 8
novel	: 8	web	: 8	rendered	: 8	int	: 8
solution	: 7	1999	: 7	theories	: 7	how	: 7
abstraction	: 7	mind	: 7	nature	: 7	commonsense	: 7
often	: 7	applications	: 7	explicit	: 7	indicate	: 7
any	: 7	only	: 7	where	: 7	components	: 7
image	: 7	there	: 7	al	: 7	all	: 7
two	: 7	reflect	: 7	definition	: 7	while	: 7
2004	: 7	2005	: 7	find	: 7	reflects	: 7
out	: 7	interactions	: 7	interaction	: 7	linked	: 7
based	: 7	includes	: 7	machines	: 6	1995	: 6
movies	: 6	indicated	: 6	methodology	: 6	transforming	: 6
personal	: 6	represents	: 6	life	: 6	transform	: 6
useful	: 6	shown	: 6	semantics	: 6	generalization	: 6
persons	: 6	thinking	: 6	using	: 6	ontology	: 6
further	: 6	search	: 6	hard	: 6	story	: 6
community	: 6	generating	: 6	rules	: 6	person	: 6
transformation	: 6	within	: 6	helps	: 6	able	: 6
who	: 6	key	: 6	units	: 6	display	: 6
summarized	: 5	indicates	: 5	cites	: 5	machine	: 5
operations	: 5	before	: 5	classified	: 5	content	: 5
user	: 5	features	: 5	tree	: 5	projections	: 5
techniques	: 5	approach	: 5	evolve	: 5	-lcb-	: 5
focus	: 5	discovering	: 5	believes	: 5	inputs	: 5
online	: 5	spaces	: 5	get	: 5	learning	: 5
enable	: 5	extended	: 5	semantically	: 5	certain	: 5
large	: 5	communities	: 5	easily	: 5	evaluation	: 5
during	: 5	barzilay	: 5	match	: 5	survey	: 5
extracted	: 5	hyperlinks	: 5	innovation	: 5	innate	: 5
2006	: 5	2009	: 5	objects	: 5	priority	: 5
movie	: 5	processes	: 5	-rcb-	: 5	closed	: 5
ability	: 5	minds	: 5	will	: 5	patterns	: 5
necessary	: 5	works	: 5	convey	: 5	selecting	: 5
about	: 5	limited	: 4	summarizes	: 4	enhance	: 4
above	: 4	pursuit	: 4	therefore	: 4	1997	: 4
1998	: 4	cited	: 4	them	: 4	reasonable	: 4
extract	: 4	cameras	: 4	adapt	: 4	channels	: 4

rich	: 4	we	: 4	union	: 4	three	: 4
specialization	: 4	things	: 4	just	: 4	transformed	: 4
specific	: 4	paragraphs	: 4	ensure	: 4	devices	: 4
role	: 4	daily	: 4	environment	: 4	appear	: 4
studied	: 4	scope	: 4	sharing	: 4	outputs	: 4
corresponding	: 4	reviews	: 4	mainly	: 4	1958	: 4
classifying	: 4	open	: 4	size	: 4	given	: 4
representing	: 4	were	: 4	summarizations	: 4	ways	: 4
mark	: 4	good	: 4	develop	: 4	output	: 4
consider	: 4	nodes	: 4	threads	: 4	establish	: 4
strategies	: 4	needs	: 4	short	: 4	generation	: 4
beyond	: 4	number	: 4	interact	: 4	determined	: 4
motivation	: 4	play	: 4	ext	: 4	intelligence	: 4
interface	: 4	both	: 4	hyperlink	: 4	pi	: 4
sub-dimensions	: 4	empirical	: 4	real	: 4	organization	: 4
construct	: 4	world	: 4	processing	: 4	multi-document	: 4
etc.	: 4	influence	: 4	diverse	: 4	problems	: 4
languages	: 4	citing	: 4	explore	: 4	extractive	: 4
becomes	: 4	axiom	: 4	realize	: 4	special	: 4
category	: 4	times	: 4	issue	: 4	means	: 4
requirement	: 4	incorporating	: 4	table	: 4	lattice	: 4
searching	: 4	does	: 4	construction	: 4	book	: 4
consists	: 3	even	: 3	understandability	: 3	selected	: 3
consisting	: 3	evolutionism	: 3	study	: 3	projection	: 3
psychological	: 3	rationalism	: 3	type	: 3	separated	: 3
attract	: 3	feature	: 3	writers	: 3	after	: 3
meaningful	: 3	vary	: 3	innovative	: 3	better	: 3
grammar	: 3	literature	: 3	linear	: 3	management	: 3
formation	: 3	rank	: 3	another	: 3	classes	: 3
seen	: 3	1969	: 3	1966	: 3	incorporate	: 3
do	: 3	radius	: 3	wikipedia	: 3	artificial	: 3
news	: 3	basis	: 3	expected	: 3	voice	: 3
beside	: 3	sentence	: 3	identify	: 3	unique	: 3
advanced	: 3	unnecessary	: 3	comments	: 3	automatically	: 3
exist	: 3	generally	: 3	interested	: 3	uniformly	: 3
displaying	: 3	could	: 3	word	: 3	current	: 3
commonly	: 3	renders	: 3	requirements	: 3	write	: 3
still	: 3	coordinates	: 3	significantly	: 3	rational	: 3
queries	: 3	gives	: 3	wide	: 3	ground	: 3
title	: 3	enabling	: 3	mani	: 3	color	: 3
linguistic	: 3	direction	: 3	developing	: 3	aspects	: 3
communicate	: 3	arranged	: 3	field	: 3	a.	: 3
scientists	: 3	takes	: 3	evolves	: 3	science	: 3
sense	: 3	rather	: 3	derived	: 3	developed	: 3
hypertext	: 3	linking	: 3	relies	: 3	focusing	: 3
liu	: 3	internal	: 3	most	: 3	traditional	: 3
shared	: 3	creating	: 3	simple	: 3	audios	: 3
openness	: 3	create	: 3	extends	: 3	representative	: 3
evaluating	: 3	higher	: 3	levels	: 3	moving	: 3

follows	: 3	subtitles	: 3	readability	: 3	memory	: 3
clips	: 3	posters	: 3	lead	: 3	2000	: 3
2001	: 3	2007	: 3	results	: 3	similar	: 3
implicitly	: 3	multimedia	: 3	separation	: 3	tag	: 3
symbols	: 3	2014	: 3	related	: 3	static	: 3
facilitate	: 3	explanation	: 3	slides	: 3	need	: 3
studying	: 3	emerging	: 3	areas	: 3	indicators	: 3
subspace	: 3	audio	: 3	sources	: 3	usage	: 3
smart	: 3	function	: 3	made	: 3	places	: 3
universal	: 3	webpages	: 3	child	: 2	dynasty	: 2
four	: 2	erkan	: 2	segments	: 2	connects	: 2
human-machine	: 2	phones	: 2	chen	: 2	pragmatism	: 2
net	: 2	china	: 2	changed	: 2	museums	: 2
replace	: 2	plot	: 2	browse	: 2	music	: 2
yahoo	: 2	continual	: 2	work	: 2	itself	: 2
end	: 2	over	: 2	writing	: 2	clauses	: 2
xu	: 2	silent	: 2	roles	: 2	extracting	: 2
bridge	: 2	behavior	: 2	exploring	: 2	modern	: 2
brandow	: 2	effectiveness	: 2	established	: 2	inspire	: 2
keywords	: 2	proposed	: 2	explain	: 2	pursuing	: 2
idioms	: 2	continually	: 2	psychologists	: 2	conference	: 2
engines	: 2	simplification	: 2	extraction	: 2	hand	: 2
dementhon	: 2	reuse	: 2	background	: 2	depicts	: 2
efforts	: 2	particularly	: 2	rely	: 2	differences	: 2
maximum	: 2	locality	: 2	digital	: 2	node	: 2
models	: 2	felt	: 2	global	: 2	advantage	: 2
mckeown	: 2	discover	: 2	uniform	: 2	relational	: 2
studies	: 2	emerge	: 2	criteria	: 2	huge	: 2
produce	: 2	man	: 2	years	: 2	statistical	: 2
half	: 2	arrows	: 2	establishing	: 2	emerges	: 2
increase	: 2	shows	: 2	clustering	: 2	theory	: 2
mechanisms	: 2	derivation	: 2	think	: 2	first	: 2
directly	: 2	maybury	: 2	constructionism	: 2	topics	: 2
efficient	: 2	potential	: 2	take	: 2	printer	: 2
track	: 2	pages	: 2	later	: 2	explicitly	: 2
ranking	: 2	regarding	: 2	pang	: 2	concern	: 2
behind	: 2	recall	: 2	region	: 2	comes	: 2
among	: 2	formed	: 2	photos	: 2	document	: 2
without	: 2	solve	: 2	very	: 2	speed	: 2
empiricism	: 2	identifying	: 2	benefit	: 2	regina	: 2
symbiotic	: 2	moderate	: 2	oj	: 2	discussed	: 2
determine	: 2	low	: 2	novice	: 2	requested	: 2
symbol	: 2	building	: 2	reasoning	: 2	far	: 2
leads	: 2	list	: 2	cues	: 2	version	: 2
attitudes	: 2	published	: 2	paragraph	: 2	evolved	: 2
specialized	: 2	scan	: 2	influenced	: 2	influences	: 2
solving	: 2	actually	: 2	someone	: 2	framework	: 2
daume	: 2	knight	: 2	edmundson	: 2	psychology	: 2
since	: 2	denoted	: 2	reason	: 2	done	: 2

part	: 2	determines	: 2	interactive	: 2	generalized	: 2
quillian	: 2	mirella	: 2	measures	: 2	experiences	: 2
institutions	: 2	impact	: 2	indicator	: 2	distributed	: 2
trees	: 2	culture	: 2	probably	: 2	attention	: 2
relying	: 2	due	: 2	reduction	: 2	century	: 2
faceted	: 2	widely	: 2	composition	: 2	database	: 2
love	: 2	tables	: 2	advertisements	: 2	facets	: 2
essential	: 2	mathematical	: 2	understood	: 2	gudivada	: 2
viewpoints	: 2	qing	: 2	chomsky	: 2	range	: 2
statistics	: 2	long	: 2	sections	: 2	line	: 2
sometimes	: 2	defined	: 2	single	: 2	modeling	: 2
composing	: 2	baxendale	: 2	implies	: 2	issues	: 2
compose	: 2	concerned	: 2	understandings	: 2	plays	: 2
access	: 2	3d	: 2	body	: 2	lee	: 2
semantics-based	: 2	opinion	: 2	implement	: 2	involves	: 2
cooperate	: 2	integrating	: 2	classifications	: 2	located	: 2
establishment	: 2	collection	: 2	efficiently	: 2	revising	: 2
own	: 2	lapata	: 2	relativity	: 2	2013	: 2
front	: 2	text-only	: 2	storyboard	: 2	identified	: 2
map	: 2	constitute	: 2	books	: 2	our	: 2
luhn	: 2	supports	: 2	integrated	: 2	phrases	: 2
raghavan	: 2	radev	: 2	reaches	: 2	publication	: 2
regards	: 2	remember	: 2	abstracts	: 2	clip	: 2
mechanism	: 2	close-core	: 2	high-level	: 2	minsky	: 2
candidates	: 2	coordinating	: 2	contain	: 2	qi	: 2
constructing	: 2	exists	: 2	computer	: 2	interacting	: 2
freely	: 2	streams	: 2	diversity	: 2	coherence	: 2
sensed	: 2	value	: 2	ekin	: 2	thus	: 2
unity	: 2	difficult	: 2	keep	: 2	hybrid	: 2
underlying	: 2	large-scale	: 2	articles	: 2	sequence	: 2
phenomena	: 2	expansion	: 2	carried	: 2	carries	: 2
1982	: 2	synthesized	: 2	versatile	: 2	whether	: 2
piece	: 2	education	: 2	humanized	: 2	conclusion	: 2
kinds	: 2	volumes	: 2	writings	: 1	two-dimensional	: 1
magnetic	: 1	desirable	: 1	relationships	: 1	physiological	: 1
presents	: 1	under	: 1	emerged	: 1	regional	: 1
updates	: 1	uncertain	: 1	markov	: 1	unifying	: 1
concise	: 1	direct	: 1	likely	: 1	designing	: 1
notions	: 1	obtained	: 1	electricity	: 1	browsing	: 1
advantages	: 1	zubiaga	: 1	changes	: 1	explained	: 1
stern	: 1	m.	: 1	negative	: 1	hahn	: 1
phone	: 1	qazvinian	: 1	hold	: 1	uzzaman	: 1
me	: 1	1993	: 1	1996	: 1	wang	: 1
give	: 1	organized	: 1	involve	: 1	reviewing	: 1
feasible	: 1	guarantee	: 1	worldview	: 1	classify	: 1
attempt	: 1	neglect	: 1	greek	: 1	complexity	: 1
wind	: 1	emotion	: 1	1-10	: 1	satisfies	: 1
nets	: 1	production	: 1	hidden	: 1	carton	: 1
easier	: 1	enrich	: 1	break	: 1	effects	: 1

classifies	: 1	series	: 1	upload	: 1	reused	: 1
encourage	: 1	foundation	: 1	free	: 1	tian	: 1
detecting	: 1	bates	: 1	concept-level	: 1	viewing	: 1
incorporated	: 1	social/individual	: 1	wind-rose	: 1	navigator	: 1
similarly	: 1	needed	: 1	hypothetical	: 1	recent	: 1
tool	: 1	inexact	: 1	target	: 1	1978	: 1
speaking	: 1	historical	: 1	fashion	: 1	rau	: 1
regulate	: 1	tells	: 1	responsible	: 1	1960	: 1
1961	: 1	recommended	: 1	scripts	: 1	self-complete	: 1
medical	: 1	flow	: 1	points	: 1	notion	: 1
attempts	: 1	solutions	: 1	maccarthy	: 1	latent	: 1
salton	: 1	dj	: 1	establishes	: 1	di	: 1
prefaces	: 1	architecture	: 1	reference	: 1	habit	: 1
peripheral	: 1	depends	: 1	correlational	: 1	lenat	: 1
unable	: 1	cooperation	: 1	discovery	: 1	extend	: 1
smelled	: 1	improve	: 1	adapting	: 1	biologically	: 1
facet	: 1	games	: 1	logic	: 1	requests	: 1
argue	: 1	appeared	: 1	dynamically	: 1	website	: 1
foucault	: 1	coherent	: 1	personally	: 1	halevy	: 1
air	: 1	near	: 1	reinventions	: 1	ip	: 1
grammars	: 1	experts	: 1	caesar	: 1	agarwal	: 1
containing	: 1	clearly	: 1	thoughts	: 1	scenario	: 1
programs	: 1	1977	: 1	1975	: 1	ocean	: 1
incapable	: 1	simulated	: 1	proposes	: 1	adding	: 1
candidate	: 1	sciences	: 1	tuples	: 1	easy	: 1
technological	: 1	picture-based	: 1	humanity	: 1	possible	: 1
possibly	: 1	fusion	: 1	unification	: 1	yager	: 1
informative	: 1	steps	: 1	security	: 1	right	: 1
old	: 1	successfully	: 1	short-term	: 1	sociology	: 1
shakespeare	: 1	dynamicity	: 1	uml	: 1	repository	: 1
tewfik	: 1	properties	: 1	mihalcea	: 1	constructivism	: 1
v.qazvinian	: 1	maxwell	: 1	combine	: 1	rendering	: 1
reducing	: 1	compression	: 1	support	: 1	why	: 1
anderson	: 1	forming	: 1	denoting	: 1	friederici	: 1
incorporation	: 1	stages	: 1	high-dimensional	: 1	evidence	: 1
reality	: 1	shrink	: 1	neuroscience	: 1	n.	: 1
assume	: 1	krakauer	: 1	concept	: 1	chain	: 1
themes	: 1	technique	: 1	multi-facet	: 1	marks	: 1
1991	: 1	zhang	: 1	two-way	: 1	emphasizes	: 1
emphasized	: 1	exact	: 1	standards	: 1	zoom-in-and-zoom-out	: 1
perceptual	: 1	says	: 1	three-dimensional	: 1	insignificant	: 1
cyber	: 1	ashburner	: 1	shares	: 1	satisfy	: 1
explosion	: 1	improvable	: 1	magnetism	: 1	groups	: 1
change	: 1	resonance	: 1	picture-text	: 1	additive	: 1
positive	: 1	live	: 1	encode	: 1	introducing	: 1
clicking	: 1	visual	: 1	julius	: 1	car	: 1
semi-automatic	: 1	cad	: 1	portals	: 1	expanding	: 1
heard	: 1	pre-defined	: 1	watching	: 1	s.	: 1
economy	: 1	explores	: 1	designed	: 1	improving	: 1

accelerates	: 1	lemmas	: 1	fluent	: 1	definitions	: 1
seeing	: 1	webpage	: 1	structuring	: 1	group	: 1
monitor	: 1	platform	: 1	constitutes	: 1	coordinated	: 1
happened	: 1	conveying	: 1	views	: 1	matches	: 1
conversations	: 1	records	: 1	matched	: 1	cognition	: 1
rethinking	: 1	domain	: 1	snapshots	: 1	breakthrough	: 1
year	: 1	communicating	: 1	attracted	: 1	investigation	: 1
earlier	: 1	possibility	: 1	complicated	: 1	bayes	: 1
uncover	: 1	teufel	: 1	clicked	: 1	selections	: 1
motion	: 1	thing	: 1	origin	: 1	spoken	: 1
carry	: 1	methodological	: 1	mouaddib	: 1	fmri	: 1
personalities	: 1	categorical	: 1	image-like	: 1	realization	: 1
friend	: 1	brains	: 1	accurately	: 1	inventor	: 1
tasted	: 1	locations	: 1	ideas	: 1	equipment	: 1
ideal	: 1	trace	: 1	normal	: 1	friedman	: 1
adaptability	: 1	considered	: 1	typically	: 1	laws	: 1
shot	: 1	xml	: 1	dick	: 1	either	: 1
enriched	: 1	viewpoint	: 1	readablitiy	: 1	resource	: 1
lenzerini	: 1	relative	: 1	top-level	: 1	detect	: 1
review	: 1	navigates	: 1	infrastructure	: 1	screen	: 1
hilda	: 1	article	: 1	motivations	: 1	implementing	: 1
period	: 1	considering	: 1	shroff	: 1	prototype	: 1
convincible	: 1	win-rose	: 1	external	: 1	case	: 1
conferences	: 1	everyday	: 1	media	: 1	status	: 1
edges	: 1	investigates	: 1	distribu	: 1	tracking	: 1
markup	: 1	extensible	: 1	model	: 1	actress	: 1
unclear	: 1	aspect	: 1	guides	: 1	captured	: 1
overlapped	: 1	samples	: 1	complements	: 1	styles	: 1
kupiec	: 1	decomposed	: 1	early	: 1	grid	: 1
listening	: 1	externalization	: 1	reduced	: 1	specifies	: 1
satisfactory	: 1	competition	: 1	specified	: 1	matching	: 1
reasons	: 1	generates	: 1	provided	: 1	mood	: 1
critical	: 1	football	: 1	power	: 1	seconds	: 1
notably	: 1	complementation	: 1	comparison	: 1	ok	: 1
practical	: 1	mutually	: 1	road	: 1	communication	: 1
references	: 1	cikm2012	: 1	assumes	: 1	regard	: 1
1599	: 1	fattah	: 1	unveils	: 1	arranges	: 1
exemplar	: 1	d.r.radev	: 1	strongly	: 1	gong	: 1
lifetime	: 1	gruber	: 1	again	: 1	completeness	: 1
multi-level	: 1	poor	: 1	non-symbol	: 1	students	: 1
coverage	: 1	included	: 1	multi-medias	: 1	curve	: 1
kckeown	: 1	coauthor	: 1	tv	: 1	homepage	: 1
activities	: 1	difference	: 1	condition	: 1	louis	: 1
adjust	: 1	abstracted	: 1	displays	: 1	section	: 1
learned	: 1	contrast	: 1	movement	: 1	full	: 1
compressed	: 1	observing	: 1	publisher	: 1	inspired	: 1
relevant-to-core	: 1	family	: 1	sensors	: 1	eye	: 1
distinct	: 1	codify	: 1	comparing	: 1	knows	: 1
abridged	: 1	known	: 1	history	: 1	compare	: 1

correctness	: 1	share	: 1	minimum	: 1	exclude	: 1
species	: 1	recursive	: 1	awkward	: 1	explains	: 1
raschia	: 1	tried	: 1	algebra	: 1	adventure	: 1
derives	: 1	egg	: 1	rapidly	: 1	detected	: 1
microscopic	: 1	might	: 1	macroscopic	: 1	pursue	: 1
reflected	: 1	association	: 1	found	: 1	characterized	: 1
house	: 1	energy	: 1	operation	: 1	event	: 1
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WP_Fdic:

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Column 1		Column 2		Column 3	
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['introducing', 'VBG']	: 1	['simulated', 'JJ']	: 1	['location', 'VB']	: 1
['separations', 'NNS']	: 1	['concept', 'NN']	: 1	['shares', 'VBZ']	: 1
['that', 'DT']	: 1	['silber', 'NNP']	: 1	['because', 'RB']	: 1
['multimedia', 'JJ']	: 1	['forming', 'VBG']	: 1	['incorporated', 'VBN']	: 1
['multimedia', 'VB']	: 1	['derives', 'VBZ']	: 1	['n.', 'NNP']	: 1
['great', 'JJ']	: 1	['history', 'NN']	: 1	['easy', 'JJ']	: 1
['habit', 'NN']	: 1	['museum', 'NN']	: 1	['produces', 'VBZ']	: 1
['analogy', 'NN']	: 1	['davis', 'NNP']	: 1	['tv', 'NN']	: 1
['egg', 'NN']	: 1	['formalized', 'VBN']	: 1	['retrieves', 'JJ']	: 1
['mutually', 'RB']	: 1	['studies', 'VBZ']	: 1	['football', 'NN']	: 1
['explain', 'VB']	: 1	['writers', 'NNP']	: 1	['individual', 'NN']	: 1
['tool', 'NN']	: 1	['flow', 'NN']	: 1	['reinventions', 'NNS']	: 1
['locate', 'VB']	: 1	['software', 'NN']	: 1	['explain', 'VBP']	: 1
['decision', 'NN']	: 1	['methods', 'RB']	: 1	['investigates', 'VBZ']	: 1
['format', 'NN']	: 1	['responsible', 'JJ']	: 1	['et', 'FW']	: 1
['while', 'NN']	: 1	['half', 'DT']	: 1	['xu', 'NNP']	: 1
['pre-designed', 'JJ']	: 1	['build', 'VB']	: 1	['possibility', 'NN']	: 1
['gradually', 'RB']	: 1	['notions', 'NNS']	: 1	['association', 'NN']	: 1
['poor', 'JJ']	: 1	['center', 'NN']	: 1	['break', 'VB']	: 1
['retrieving', 'VBG']	: 1	['points', 'NNS']	: 1	['ranking', 'JJ']	: 1
['familiarity', 'NN']	: 1	['visual', 'JJ']	: 1	['citation', 'VBG']	: 1
['storyboard', 'JJ']	: 1	['yager', 'NNP']	: 1	['xu', 'NN']	: 1
['newell', 'NNP']	: 1	['desirable', 'JJ']	: 1	['species', 'NNS']	: 1
['two-way', 'JJ']	: 1	['themes', 'NNS']	: 1	['fusion', 'NN']	: 1
['cad', 'NNP']	: 1	['direct', 'JJ']	: 1	['instances', 'NNS']	: 1
['semantically', 'JJ']	: 1	['pursuit', 'VB']	: 1	['macroscopic', 'JJ']	: 1
['perceptual', 'NN']	: 1	['why', 'WRB']	: 1	['-lsb-', 'VBG']	: 1
['business', 'NN']	: 1	['tried', 'VBD']	: 1	['lower', 'JJR']	: 1
['classification', 'JJ']	: 1	['2.0', 'NNP']	: 1	['uniformly', 'RB']	: 1
['concerns', 'NNS']	: 1	['d.r.radev', 'NNP']	: 1	['material', 'NN']	: 1
['depends', 'VBZ']	: 1	['making', 'NN']	: 1	['least', 'JJS']	: 1
['assumes', 'VBZ']	: 1	['biologically', 'RB']	: 1	['devices', 'JJ']	: 1
['homepage', 'NNP']	: 1	['thread', 'NN']	: 1	['picture-sharing', 'JJ']	: 1
['viewpoint', 'NN']	: 1	['reuse', 'NN']	: 1	['progress', 'NN']	: 1
['argue', 'VBP']	: 1	['jon', 'NNP']	: 1	['access', 'NN']	: 1
['existing', 'JJ']	: 1	['candidate', 'NN']	: 1	['probabilistic', 'JJ']	: 1
['inner-product', 'JJ']	: 1	['laws', 'NNS']	: 1	['machine', 'VB']	: 1
['picture', 'VBP']	: 1	['purpose', 'NN']	: 1	['evolutionism', 'VB']	: 1
['reverse', 'JJ']	: 1	['focuses', 'VBZ']	: 1	['pursuing', 'NN']	: 1
['motor', 'NN']	: 1	['placed', 'VBN']	: 1	['instruction', 'NN']	: 1
['styles', 'NNS']	: 1	['known', 'VBN']	: 1	['nanba', 'NNP']	: 1

```
['abstracted', 'JJ']              : 1       ['hotel', 'NN']                    : 1       ['as', 'RB']              : 1
['automation', 'VB']              : 1       ['video', 'NNP']                   : 1       ['attracted', 'VBN']      : 1


W_Pdic:
limited            : ['VBN']                      writings       : ['NNS']
two-dimensional    : ['JJ']                       magnetic       : ['JJ']
child              : ['NN']                        desirable      : ['JJ']
dynasty            : ['NNP']                      four           : ['CD']
erkan              : ['NNP']                      consists       : ['VBZ']
relationships      : ['NNS']                      physiological  : ['JJ']
segments           : ['NNS']                      presents       : ['VBZ']
under              : ['IN']                        summarizes     : ['VBZ']
summarizer         : ['NN', 'NNP', 'VB']          emerged        : ['VBD']
regional           : ['JJ']                        connects       : ['VBZ']
every              : ['DT']                        updates        : ['NNS']
human-machine      : ['JJ']                        summarized     : ['VBN', 'VBD', 'VBG']
uncertain          : ['JJ']                        solution       : ['NN']
enhance            : ['VB']                        markov         : ['NNP']
unifying           : ['JJ']                        concise        : ['JJ']
phones             : ['NNS']                      direct         : ['JJ']
likely             : ['RB']                        chen           : ['NNP']
machines           : ['NNS']                      even           : ['RB']
understandability  : ['NN']                        selected       : ['VBN']
pragmatism         : ['VBZ', 'NN']                above          : ['JJ']
designing          : ['VBG']                      new            : ['JJ', 'NNP']
net                : ['NN', 'JJ']                 consisting     : ['VBG']
evolutionism       : ['RB', 'VB', 'NN']           notions        : ['NNS']
china              : ['NNP']                      pursuit        : ['NN', 'VB']
represented        : ['VBN', 'JJ', 'VBD']         obtained       : ['VBN']
study              : ['NN', 'VB']                 changed        : ['VBN']
museums            : ['NNS']                      electricity    : ['NN']
browsing           : ['NN']                        advantages     : ['NNS']
zubiaga            : ['NNP']                      suitable       : ['JJ', 'NNP']
changes            : ['VBZ']                      projection     : ['NN']
classification     : ['NN', 'NNP', 'JJ']          explained      : ['VBD']
replace            : ['VB']                        psychological  : ['JJ']
stern              : ['NNP']                      plot           : ['NN']
browse             : ['VB']                        m.             : ['NNP']
negative           : ['JJ']                        music          : ['NN']
therefore          : ['RB']                        rationalism    : ['NN', 'VB']
type               : ['NN']                        separated      : ['JJ']
hahn               : ['NNP']                      yahoo          : ['NNP']
phone              : ['NN']                        qazvinian      : ['NNP']
continual          : ['JJ']                        hold           : ['VB']
uzzaman            : ['NNP']                      me             : ['PRP']
1993               : ['CD']                        1995           : ['CD']
1997               : ['CD']                        1996           : ['CD']
1999               : ['CD']                        1998           : ['CD']
```

```
work              : ['NN']                      theories        : ['NNS']
movies            : ['NNS']                     itself          : ['PRP']
concepts          : ['NNS']                     example         : ['NN']
wang              : ['NNP']                     indicated       : ['VBD', 'VBN']
give              : ['VB']                      cited           : ['VBD', 'VBN']
organized         : ['VBN']                     involve         : ['VBP']
indicates         : ['VBZ']                     reviewing       : ['VBG']
feasible          : ['JJ']                      attract         : ['VB']
cites             : ['VBZ']                     guarantee       : ['NN']
end               : ['NN', 'VBP']               worldview       : ['NN']
provide           : ['VB', 'VBP']               feature         : ['VB', 'NN']
machine           : ['VB', 'NN']                how             : ['WRB']
methodology       : ['NN', 'NNP']               writers         : ['UH', 'NNS', 'NNP']
classify          : ['VB']                      cyberspace      : ['NN', 'NNP']
abstraction       : ['NN', 'VBG', 'NNP']        transforming    : ['VBG']
after             : ['IN']                      summarize       : ['VB', 'JJ']
meaningful        : ['JJ']                      types           : ['NNS']
attempt           : ['NN']                      neglect         : ['VBZ']
greek             : ['JJ']                      complexity      : ['NN']
order             : ['NN']                      wind            : ['NN']
operations        : ['NNS', 'NNP']              emotion         : ['NN']
over              : ['IN', 'RB']                vary            : ['VBP']
satisfied         : ['JJ', 'VBN']               1-10            : ['CD']
innovative        : ['JJ']                      satisfies       : ['VBZ']
nets              : ['NNS']                      before          : ['IN', 'RB']
personal          : ['JJ', 'NN']                writing         : ['NN', 'VBG']
better            : ['JJR', 'RBR']              production      : ['NN']
hidden            : ['VBN']                     carton          : ['NN']
easier            : ['JJR']                     then            : ['RB']
them              : ['PRP']                     enrich          : ['VBP']
break             : ['VB']                      effects         : ['NNS']
they              : ['PRP']                     represents      : ['VBZ', 'IN']
grammar           : ['NN']                      classified      : ['VBN', 'JJ']
reasonable        : ['JJ']                      each            : ['DT']
classifies        : ['VBZ']                     series          : ['NN']
principles        : ['NNS']                     upload          : ['NN']
literature        : ['NN']                      clauses         : ['NNS']
extract           : ['VB']                      reused          : ['VBN']
network           : ['NN', 'NNP']               cameras         : ['NNS']
content           : ['NN']                      encourage       : ['VB']
adapt             : ['VB']                       reader          : ['NN', 'VB']
xu                : ['NN', 'NNP']               foundation      : ['NN']
linear            : ['JJ']                      free            : ['JJ']
tian              : ['NNP']                     management      : ['NN']
formation         : ['NN']                      detecting       : ['VBG']
silent            : ['JJ']                       bates           : ['NNP']
concept-level     : ['JJ']                       viewing         : ['VBG']
incorporated      : ['VBN']                     user            : ['NN']
organize          : ['VB', 'JJ']                social/individual : ['NN']
```

features	: ['NNS']		render	: ['VBP', 'VB', 'NN']
rank	: ['NN', 'VB']		channels	: ['NNS']
another	: ['DT']		wind-rose	: ['JJ']
navigator	: ['NN']		similarly	: ['RB']
needed	: ['VBN']		hypothetical	: ['JJ']
recent	: ['JJ']		tool	: ['NN']
inexact	: ['JJ']		target	: ['NN']
roles	: ['NNS']		1978	: ['CD']
tree	: ['NN']		classes	: ['NNS']
speaking	: ['VBG']		historical	: ['JJ']
enables	: ['VBZ']		extracting	: ['VBG', 'JJ']
bridge	: ['NN']		fashion	: ['NN']
behavior	: ['NN', 'JJ']		exploring	: ['VBG']
modern	: ['NNP']		mind	: ['NN']
rau	: ['NNP']		seen	: ['VBN']
regulate	: ['VB']		tells	: ['VBZ']
contents	: ['NNS']		1969	: ['CD']
1966	: ['CD']		responsible	: ['JJ']
1960	: ['CD']		1961	: ['CD']
recommended	: ['VBN']		brandow	: ['NNP']
effectiveness	: ['NN']		established	: ['VBN']
scripts	: ['NNS']		self-complete	: ['JJ']
medical	: ['JJ']		flow	: ['NN']
points	: ['NNS']		principle	: ['NNP', 'NN']
notion	: ['NN']		incorporate	: ['VB']
inspire	: ['VB']		attempts	: ['VBZ']
solutions	: ['NNS']		maccarthy	: ['NNP']
keywords	: ['NNS']		latent	: ['JJ']
proposed	: ['VBN']		explain	: ['VBP', 'VB']
summarizing	: ['VBG', 'JJ']		rich	: ['JJ']
pursuing	: ['VBG', 'NN']		salton	: ['NNP']
do	: ['VBP', 'VB']		dj	: ['NN']
establishes	: ['VBZ']		di	: ['IN']
prefaces	: ['NNS']		idioms	: ['NNS']
architecture	: ['NN']		automatic	: ['JJ', 'NNP']
reference	: ['NN']		habit	: ['NN']
peripheral	: ['JJ']		depends	: ['VBZ']
radius	: ['NNS']		projections	: ['NNS']
correlational	: ['JJ']		techniques	: ['NNS']
lenat	: ['NNP']		wikipedia	: ['NNP']
artificial	: ['JJ']		continually	: ['RB']
unable	: ['JJ']		cooperation	: ['NN']
approach	: ['NN']		discovery	: ['NN']
we	: ['PRP']		extend	: ['VB']
nature	: ['NN']		smelled	: ['VBD']
however	: ['RB']		news	: ['NN']
improve	: ['VB']		adapting	: ['NNP']
psychologists	: ['NNS']		biologically	: ['RB']
readers	: ['NNS']		facet	: ['JJ']

games	: ['NNS']		logic	: ['NN']
requests	: ['VBD']		argue	: ['VBP']
appeared	: ['VBN']		conference	: ['NN']
engines	: ['NNS']		basis	: ['NN']
union	: ['NN']		simplification	: ['NN']
three	: ['CD']		been	: ['VBN']
quickly	: ['RB']		extraction	: ['NN']
interest	: ['NN', 'VB']		basic	: ['JJ']
expected	: ['VBN']		dynamically	: ['RB']
website	: ['NN']		life	: ['NN']
foucault	: ['NNP']		coherent	: ['JJ']
personally	: ['RB']		halevy	: ['NNP']
air	: ['NN']		information	: ['VB', 'NNP', 'NN']
near	: ['IN']		voice	: ['NN']
reinventions	: ['NNS']		ip	: ['NNP']
is	: ['VBZ']		it	: ['PRP', 'JJ']
grammars	: ['NNS']		experts	: ['NNS']
in	: ['IN', 'RP']		caesar	: ['NNP']
if	: ['IN']		agarwal	: ['NNP']
containing	: ['VBG']		specialization	: ['NN']
things	: ['NNS']		make	: ['VB']
clearly	: ['RB']		beside	: ['IN']
complex	: ['JJ']		evolve	: ['VB']
commonsense	: ['VBN', 'NN', 'JJ']		social	: ['JJ', 'NNP']
hand	: ['NN']		thoughts	: ['NNS']
scenario	: ['NN']		programs	: ['NNS']
1977	: ['CD']		dementhon	: ['NNP']
1975	: ['CD']		ocean	: ['NN']
incapable	: ['JJ']		simulated	: ['JJ']
the	: ['DT', 'NNP']		unified	: ['JJ', 'VBN', 'NNP']
just	: ['RB']		sentence	: ['NN']
proposes	: ['VBZ']		identify	: ['VB']
human	: ['JJ', 'NN', 'NNP']		previous	: ['JJ']
adding	: ['VBG']		unique	: ['JJ']
candidate	: ['NN']		sciences	: ['NNS']
regarded	: ['VBN']		tuples	: ['NNS']
transformed	: ['VBN']		easy	: ['JJ']
technological	: ['JJ']		picture-based	: ['JJ']
has	: ['VBZ']		humanity	: ['NN']
reuse	: ['VBP', 'NN']		possible	: ['JJ']
possibly	: ['RB']		fusion	: ['NN']
unification	: ['NN']		background	: ['NN']
depicts	: ['VBZ']		yager	: ['NNP']
advanced	: ['JJ']		cognitive	: ['NN', 'VB', 'JJ']
unnecessary	: ['JJ']		specific	: ['JJ']
informative	: ['JJ']		steps	: ['VBZ']
security	: ['NN']		right	: ['JJ']
old	: ['JJ']		people	: ['NNS', 'VB']
successfully	: ['NNP']		paragraphs	: ['NNS']

```
short-term          : ['JJ']                        sociology           : ['NN']
for                 : ['IN']                        comments            : ['NNS']
shakespeare         : ['NNP']                       dynamicity          : ['NNP']
uml                 : ['NNP']                       core                : ['NN', 'JJ', 'NNP', 'VB']
repository          : ['NN']                        tewfik              : ['NNP']
properties          : ['NNS']                       mihalcea            : ['NNP']
ensure              : ['VB']                        constructivism      : ['NNP']
efforts             : ['NNS']                       automatically       : ['RB']
v.qazvinian         : ['NNP']                       maxwell             : ['NNP']
combine             : ['VB']                        rendering           : ['VBG']
reducing            : ['VBG']                       particularly        : ['RB']
often               : ['RB']                        rely                : ['VB']
compression         : ['NN']                        support             : ['VBP']
transform           : ['VB', 'NNP']                 why                 : ['WRB']
anderson            : ['NNP']                        way                 : ['NN']
was                 : ['VBD']                       form                : ['NN', 'VB', 'VBP']
forming             : ['VBG']                       differences         : ['NNS']
denoting            : ['NN']                        friederici          : ['NNP']
incorporation       : ['NN']                        maximum             : ['JJ']
devices             : ['JJ', 'NNS']                 stages              : ['NNS']
high-dimensional    : ['JJ']                        -rrb-               : ['-RRB-']
abstract            : ['JJ', 'NNS', 'NN']           evidence            : ['NN']
''                  : ["'"]                         exist               : ['VB']
physical            : ['JJ']                        -lcb-               : ['-LRB-']
locality            : ['NN']                        generally           : ['RB']
reality             : ['NN']                        interested          : ['JJ']
role                : ['NN']                        digital             : ['JJ']
shrink              : ['VB']                        node                : ['NN']
picture             : ['NN', 'VBP']                 's                  : ['POS', 'VBZ']
models              : ['NNP', 'NNS']                felt                : ['VBN']
uniformly           : ['NNS', 'RB', 'NNP']          neuroscience        : ['NN']
n.                  : ['NNP']                       assume              : ['VBP']
daily               : ['JJ']                        time                : ['NN', 'VB', 'NNP']
krakauer            : ['NNP']                       concept             : ['NN']
chain               : ['NN']                        global              : ['JJ']
focus               : ['VB', 'NN', 'VBP']           themes              : ['NNS']
displaying          : ['VBG']                       graph               : ['NN']
technique           : ['NN']                        environment         : ['NN']
multi-facet         : ['JJ']                        marks               : ['NNS']
discovering         : ['VBG']                       1991                : ['CD']
advantage           : ['NN']                        zhang               : ['NNP']
could               : ['MD']                        two-way             : ['JJ']
emphasizes          : ['VBZ']                       word                : ['NN']
emphasized          : ['VBN']                       exact               : ['JJ']
level               : ['NN']                        standards           : ['NNS']
mckeown             : ['NNP']                       zoom-in-and-zoom-out: ['NN']
perceptual          : ['NN']                        says                : ['VBZ']
three-dimensional   : ['JJ']                        insignificant       : ['JJ']
discover            : ['VB']                         cyber               : ['NN']
```

ashburner	: ['NNP']	appear	: ['VB', 'VBP']
shares	: ['VBZ']	uniform	: ['JJ']
current	: ['JJ']	relational	: ['JJ']
satisfy	: ['VB']	explosion	: ['NN']
improvable	: ['JJ']	understanding	: ['NN', 'VBG']
magnetism	: ['NN']	groups	: ['NNS']
change	: ['NN']	studied	: ['VBN']
commonly	: ['RB']	usually	: ['RB']
resonance	: ['NN']	studies	: ['VBZ', 'NNS']
picture-text	: ['JJ']	emerge	: ['VB', 'VBP']
useful	: ['JJ']	additive	: ['NNP']
positive	: ['JJ']	by	: ['IN']
live	: ['VBP']	criteria	: ['NNS']
encode	: ['VB']	scope	: ['NN']
introducing	: ['VBG']	sharing	: ['VBG', 'NN']
clicking	: ['VBG']	outputs	: ['NNS', 'VBZ']
visual	: ['JJ']	corresponding	: ['JJ']
julius	: ['NNP']	car	: ['NN']
believes	: ['VBZ']	reviews	: ['NNS']
renders	: ['VBZ']	can	: ['MD']
following	: ['JJ', 'VBG', 'NN']	making	: ['NN', 'VB', 'VBG']
semi-automatic	: ['JJ']	cad	: ['NNP']
portals	: ['NNS']	figure	: ['NNP', 'NN']
expanding	: ['VBG']	topic	: ['NN', 'JJ']
heard	: ['VBD']	pre-defined	: ['JJ']
requirements	: ['NNS']	watching	: ['VBG']
write	: ['VB', 'VBP']	s.	: ['NNP']
economy	: ['NN']	inputs	: ['NNS', 'VBZ', 'VBD']
explores	: ['VBZ']	huge	: ['JJ']
may	: ['MD']	applications	: ['NNS']
produce	: ['VB']	designed	: ['VBN']
improving	: ['VBG']	such	: ['JJ', 'PDT']
data	: ['NNS', 'NN']	man	: ['NN']
natural	: ['JJ', 'VB']	accelerates	: ['VBZ']
lemmas	: ['NNS']	explicit	: ['JJ']
fluent	: ['JJ']	so	: ['IN', 'RB']
definitions	: ['NNS']	seeing	: ['VBG']
webpage	: ['NN']	mainly	: ['RB']
years	: ['NNS']	structuring	: ['VBG']
statistical	: ['JJ']	still	: ['RB']
group	: ['NN']	monitor	: ['NN']
coordinates	: ['VBZ', 'NNS', 'NNP']	forms	: ['NNS', 'VBZ']
platform	: ['NN']	constitutes	: ['VBZ']
coordinated	: ['VBN']	main	: ['JJ']
happened	: ['VBN']	conveying	: ['VBG']
views	: ['NNP']	matches	: ['VBZ']
conversations	: ['NNS']	evolution	: ['NN']
records	: ['VBZ']	half	: ['PDT', 'DT']
not	: ['RB']	1958	: ['CD', 'NNP']

matched	: ['JJ']	cognition	: ['NN']
arrows	: ['NNS']	establishing	: ['VBG']
rethinking	: ['VBG']	domain	: ['NN']
significantly	: ['RB']	classifying	: ['VBG', 'NNP']
snapshots	: ['NNS']	breakthrough	: ['NN']
year	: ['NN']	et	: ['CC', 'FW', 'NNP']
emerges	: ['VBZ']	shown	: ['VBN']
space	: ['NN', 'NNP']	communicating	: ['VBG']
increase	: ['VB']	attracted	: ['VBN']
investigation	: ['NNP']	papers	: ['NNS']
rational	: ['JJ']	shows	: ['VBZ']
clustering	: ['JJ', 'NN']	representations	: ['NNS', 'NNP', 'VBZ']
earlier	: ['JJ']	theory	: ['NN']
queries	: ['NNS']	mechanisms	: ['NNS']
possibility	: ['NN']	complicated	: ['JJ']
bayes	: ['NNP']	uncover	: ['VB']
teufel	: ['NNP']	clicked	: ['JJ']
derivation	: ['NN']	language	: ['NN', 'JJ', 'NNP']
selections	: ['NNS']	motion	: ['NN']
thing	: ['NN']	think	: ['VB', 'VBP']
first	: ['RB']	origin	: ['NN']
spoken	: ['VBN']	one	: ['CD', 'NN']
directly	: ['RB']	carry	: ['VB']
methodological	: ['JJ']	mouaddib	: ['NNP']
open	: ['JJ']	size	: ['NN']
fmri	: ['NNS']	given	: ['VBN']
personalities	: ['NNS']	categorical	: ['JJ']
image-like	: ['JJ']	indicate	: ['VBP']
realization	: ['VB']	structures	: ['NNS']
cite	: ['VBP', 'JJ', 'NNP', 'VB']	friend	: ['NN']
gives	: ['VBZ']	summarization	: ['NNP', 'NN', 'JJ']
that	: ['IN', 'WDT', 'DT']	brains	: ['NNS']
accurately	: ['RB']	representing	: ['VBG']
than	: ['IN']	semantics	: ['NNS']
inventor	: ['NN']	wide	: ['JJ']
maybury	: ['NNP']	constructionism	: ['VBP', 'NN']
were	: ['VBD']	summarizations	: ['NNS', 'VBZ']
and	: ['CC', 'VB', 'NNP']	tasted	: ['VBD']
topics	: ['NNS']	locations	: ['NNS']
generalization	: ['NN']	any	: ['DT']
efficient	: ['JJ']	ideas	: ['NNS']
equipment	: ['NN']	ideal	: ['JJ']
potential	: ['JJ']	take	: ['VBP', 'VB']
online	: ['JJ', 'NN']	printer	: ['NN']
multiple	: ['JJ']	trace	: ['VB']
normal	: ['JJ']	track	: ['NN']
friedman	: ['NNP']	pages	: ['NNS']
adaptability	: ['VB']	especially	: ['RB']
considered	: ['VBN']	later	: ['RB', 'JJ']

typically	: ['RB']		laws	: ['NNS']
shot	: ['NN']		spaces	: ['NNS']
ground	: ['NN']		xml	: ['NN']
title	: ['NN']		dick	: ['NNP']
either	: ['DT']		only	: ['RB', 'JJ']
explicitly	: ['RB']		enriched	: ['VBN']
ranking	: ['JJ', 'VBG']		viewpoint	: ['NN']
get	: ['VB']		readablitiy	: ['RB']
regarding	: ['VBG']		resource	: ['NNP']
summary	: ['NN', 'RB', 'NNP']		pang	: ['NNP']
where	: ['WRB']		lenzerini	: ['NNP']
relative	: ['JJ']		top-level	: ['JJ']
concern	: ['NN']		detect	: ['VB']
ways	: ['NNS']		review	: ['VB']
behind	: ['IN']		between	: ['IN']
navigates	: ['NNS']		reading	: ['NN', 'VBG']
infrastructure	: ['NN']		screen	: ['NN']
hilda	: ['NNP']		article	: ['NN']
recall	: ['VBP']		motivations	: ['NNS']
implementing	: ['VBG']		many	: ['JJ']
region	: ['NN']		according	: ['VBG']
enabling	: ['VB', 'VBG']		mani	: ['NNP']
comes	: ['VBZ']		among	: ['IN']
color	: ['NN']		period	: ['NN']
learning	: ['VBG', 'NN']		considering	: ['VBG']
shroff	: ['NNP']		mark	: ['VB', 'NN']
linguistic	: ['JJ']		prototype	: ['NN']
direction	: ['NN']		enable	: ['VB']
convincible	: ['JJ']		win-rose	: ['JJ']
formed	: ['VBN']		photos	: ['NNS']
external	: ['JJ']		case	: ['NN']
developing	: ['VBG']		these	: ['DT']
conferences	: ['NNS']		characteristics	: ['NNS']
good	: ['JJ']		everyday	: ['NN']
different	: ['JJ', 'VBG']		develop	: ['VBP', 'VB']
author	: ['NN', 'VB']		media	: ['NNS']
same	: ['JJ']		document	: ['NN']
events	: ['NNS']		status	: ['NN']
extended	: ['VBN']		persons	: ['NNS']
edges	: ['NNS']		investigates	: ['VBZ']
distribu	: ['NN']		tracking	: ['NN']
markup	: ['NNP']		without	: ['IN']
solve	: ['VB']		extensible	: ['NNP']
components	: ['NNS']		very	: ['RB']
model	: ['NNP']		dimension	: ['NN']
researchers	: ['NNS']		when	: ['WRB']
actress	: ['NN']		unclear	: ['JJ']
aspect	: ['NN']		speed	: ['NN', 'VB']
guides	: ['NNS']		captured	: ['VBN']

overlapped	: ['VBN']	thinking	: ['VBG', 'NN']
empiricism	: ['VB', 'NN']	samples	: ['NNS']
complements	: ['VBZ']	styles	: ['NNS']
kupiec	: ['NNP']	aspects	: ['NNS']
read	: ['VB', 'VBN', 'VBD']	decomposed	: ['VBN']
early	: ['JJ']	grid	: ['NN']
listening	: ['VBG']	using	: ['VBG']
externalization	: ['NNP']	identifying	: ['VBG']
benefit	: ['VB']	output	: ['NN', 'VBZ']
reduced	: ['VBN']	specifies	: ['VBZ']
satisfactory	: ['NNP']	competition	: ['NN']
specified	: ['VBN']	images	: ['NNS']
organizing	: ['VBG', 'NNP']	matching	: ['VBG']
reasons	: ['NNS']	generates	: ['VBZ']
provided	: ['VBN']	regina	: ['NNP']
mood	: ['NN']	symbiotic	: ['JJ']
critical	: ['JJ']	provides	: ['VBZ']
semantically	: ['RB', 'JJ']	moderate	: ['NNP', 'JJ']
football	: ['NN']	scientific	: ['JJ']
power	: ['NN']	seconds	: ['NNS']
communicate	: ['VB']	notably	: ['RB']
ontology	: ['NNP', 'NN']	complementation	: ['NN']
comparison	: ['NN']	ok	: ['NN']
oj	: ['NN']	of	: ['IN']
discussed	: ['VBN', 'VBD']	generated	: ['VBN', 'JJ', 'VBD']
practical	: ['JJ']	mutually	: ['RB']
or	: ['CC']	road	: ['NN']
communication	: ['NN']	image	: ['NN', 'JJ']
references	: ['NNS']	determine	: ['VB', 'VBP']
cikm2012	: ['NN']	area	: ['NN']
there	: ['EX']	low	: ['JJ']
assumes	: ['VBZ']	regard	: ['VBP']
1599	: ['CD']	arranged	: ['VBN']
fattah	: ['NNP']	unveils	: ['VBZ']
arranges	: ['VBZ']	exemplar	: ['NN']
d.r.radev	: ['NNP']	strongly	: ['RB']
gong	: ['NNP']	videos	: ['NNS']
certain	: ['JJ']	citation	: ['NNP', 'NN', 'VBG']
al	: ['NNP']	an	: ['DT']
as	: ['IN', 'RB']	at	: ['IN']
lifetime	: ['NN']	gruber	: ['NNP']
again	: ['RB']	completeness	: ['VB']
novice	: ['NN']	field	: ['NN']
multi-level	: ['JJ']	poor	: ['JJ']
requested	: ['VBN']	non-symbol	: ['JJ']
students	: ['NNS']	symbol	: ['NN']
a.	: ['NNP']	important	: ['JJ']
coverage	: ['NN']	included	: ['VBN']
building	: ['VBG']	multi-medias	: ['JJ']

```
curve            : ['NN']                    original        : ['JJ']
represent        : ['VB', 'VBP']             all             : ['DT', 'PDT']
semantic         : ['JJ', 'NNP']             consider        : ['VB']
kckeown          : ['NNP']                   coauthor        : ['NN']
reasoning        : ['NN']                    tv              : ['NN']
to               : ['TO']                    nodes           : ['NNS']
homepage         : ['NNP']                   al.             : ['NNP', 'NN', 'RB']
activities       : ['NNS']                   far             : ['RB']
difference       : ['NN']                    condition       : ['NN']
leads            : ['VBZ']                   louis           : ['NNP']
list             : ['NN']                    large           : ['JJ']
adjust           : ['VB']                    small           : ['JJ']
abstracted       : ['JJ']                    displays        : ['NNS']
further          : ['RB', 'RBR']             what            : ['WP']
cues             : ['NNS']                   section         : ['NN']
version          : ['NN']                    attitudes       : ['NNS']
scientists       : ['NNS']                   learned         : ['VBN']
method           : ['NN']                    contrast        : ['NN']
movement         : ['NN']                    full            : ['JJ']
tags             : ['NNS']                   threads         : ['NNS', 'NNP']
compressed       : ['JJ']                    observing       : ['VBG']
publisher        : ['NN']                    search          : ['NN', 'VB']
inspired         : ['NNP']                   experience      : ['VB', 'VBP', 'NN']
published        : ['VBN']                   relevant-to-core : ['JJ']
family           : ['NN']                    texts           : ['NNS']
establish        : ['VB']                    sensors         : ['NNS']
select           : ['VB', 'JJ']              eye             : ['NN']
takes            : ['VBZ']                   distinct        : ['JJ']
codify           : ['VB']                    two             : ['CD']
comparing        : ['VBG']                   more            : ['RBR', 'JJR']
knows            : ['VBZ']                    abridged        : ['JJ']
zhuge            : ['NNP', 'CD']             particular      : ['JJ']
known            : ['VBN']                    evolves         : ['NNS', 'VBZ']
science          : ['NN']                    paragraph       : ['NN']
evolved          : ['VBN']                    strategies      : ['NNS']
specialized      : ['JJ']                    history         : ['NN']
compare          : ['VB']                    scan            : ['VB']
correctness      : ['JJ']                    share           : ['VBP']
minimum          : ['JJ']                    sense           : ['NN']
exclude          : ['VBP']                   species         : ['NNS']
influenced       : ['VBN']                   needs           : ['VBZ']
recursive        : ['NNS']                   awkward         : ['JJ']
rather           : ['RB']                    influences      : ['VBZ']
explains         : ['VBZ']                   raschia         : ['NNP']
tried            : ['VBD']                   algebra         : ['NN']
derived          : ['VBN']                   reflect         : ['VBP', 'VB']
adventure        : ['NN']                    derives         : ['VBZ']
short            : ['JJ']                    fundamental     : ['JJ']
egg              : ['NN']                    retrieval       : ['VBZ', 'NN']
```

```
help               : ['VB', 'VBP']          hierarchy            : ['NN']
developed          : ['VBN']                hypertext            : ['VB', 'NN']
paper              : ['NN']                 through              : ['IN', 'RP']
its                : ['PRP$']               rapidly              : ['RB']
solving            : ['VBG']                actually             : ['RB']
detected           : ['VBN']                microscopic          : ['JJ']
systems            : ['NNS']                might                : ['MD']
macroscopic        : ['JJ']                 pursue               : ['VB']
someone            : ['NN']                 reflected            : ['VBN']
framework          : ['NN']                 communities          : ['NNS']
association        : ['NN']                 easily               : ['RB']
daume              : ['NNP']                -lsb-                : ['NNP', 'NNS', 'VBD', 'VBZ', 'NNPS', 'JJ', 'NN', 'VBG']
knight             : ['NNP']                found                : ['VBN']
characterized      : ['VBN']                mental               : ['JJ']
generation         : ['NN']                 house                : ['NN']
energy             : ['NN']                 hard                 : ['JJ']
idea               : ['NN']                 edmundson            : ['NNP']
operation          : ['NN']                 beyond               : ['IN']
event              : ['NN']                 psychology           : ['NN']
since              : ['IN']                 publish              : ['VB']
denotes            : ['VBZ']                health               : ['NN']
denoted            : ['VBN']                evaluation           : ['NN', 'NNP']
reformulated       : ['NN']                 reason               : ['NN']
citation-based     : ['JJ']                 imaging              : ['NN']
put                : ['VBN']                generate             : ['VB', 'VBP']
definition         : ['NNP', 'NN']          thread               : ['NN']
computers          : ['NNS']                major                : ['JJ']
graesser           : ['NNP']                human-machine-nature: ['JJ']
number             : ['NN']                 linking              : ['VBG', 'NNP']
instances          : ['NNS']                done                 : ['VBN']
neglects           : ['VBZ']                story                : ['NN']
script             : ['NN']                 interact             : ['VB']
moderately         : ['RB']                 least                : ['JJS']
statement          : ['NN']                 gps                  : ['NNP']
relies             : ['NNS', 'VBZ']         afantenos            : ['NNP']
hotel              : ['NN']                 newell               : ['NNP']
part               : ['NN']                 authors              : ['NNP', 'NNS']
focusing           : ['VBG', 'NNP']         inventing            : ['VBG']
query-focused      : ['JJ']                 kind                 : ['NN']
determines         : ['VBZ']                instruction          : ['NN']
determined         : ['VBN']                interactive          : ['JJ']
motivation         : ['NN']                 electroencephalography: ['JJ']
sentences          : ['NNS']                relationship         : ['NN']
lin                : ['NNP']                liu                  : ['NNP']
empirically        : ['RB']                 internal             : ['JJ']
generalized        : ['VBN', 'JJ']          analogy              : ['NN']
finding            : ['VBG']                quillian             : ['NNP']
mirella            : ['NNP']                play                 : ['NN', 'VBP', 'VB']
added              : ['VBN']                measures             : ['NNS']
```

```
reach             : ['VB']                         feature-based    : ['JJ']
most              : ['RBS', 'JJS']                 experiences      : ['NNS', 'VBZ']
complementing     : ['VBG']                        significant      : ['JJ']
services          : ['NNS']                        britton          : ['NNP']
probabilistic     : ['JJ']                         stands           : ['VBZ']
mobile            : ['JJ']                          mediation        : ['NN']
traditional       : ['JJ']                          ext              : ['NN', 'NNP']
physics           : ['NNS']                         institutions     : ['NNS']
golf              : ['NN']                           phenomenon       : ['NN']
flicker           : ['NNP']                          relation         : ['NN']
headlines         : ['NNS']                          networks         : ['NNP', 'NNS']
impact            : ['NN']                           indicator        : ['NN']
saint-paul        : ['NN']                           writer           : ['NN']
distributed       : ['VBN']                          his              : ['PRP$']
trees             : ['NNS']                          valuable         : ['JJ']
closely           : ['RB']                           shared           : ['VBN', 'VBD']
during            : ['IN']                            barzilay         : ['NNP']
common            : ['JJ']                            scanning         : ['VBG']
set               : ['NN', 'VBD']                    intelligence     : ['NN']
culture           : ['NN']                            see              : ['VBP']
individual        : ['NNP', 'NN', 'JJ']              are              : ['VBP']
close             : ['NN']                            -rsb-            : ['JJ', 'NNS', 'CD', 'NNP', 'VBN', 'VBZ']
2.0               : ['NNP']                           muthukrishnan    : ['NNP']
learns            : ['VBZ']                           visiting         : ['VBG']
distinctive       : ['JJ']                            familiarity      : ['NN']
formatted         : ['JJ']                            various          : ['JJ']
probably          : ['RB']                            conditions       : ['NNS']
g.cormode         : ['NNP']                           available        : ['JJ']
recently          : ['RB']                            creating         : ['VBG']
conroy            : ['NNP']                           interfaces       : ['NNS']
attention         : ['NN']                            interface        : ['NN', 'NNP', 'JJ']
cross-disciplinary : ['JJ']                           relying          : ['VBG']
both              : ['DT']                            last             : ['JJ']
reverse           : ['JJ']                            hyperlink        : ['NN']
connection        : ['NN']                            long-term        : ['JJ']
whole             : ['JJ']                            point            : ['NN']
simple            : ['VB', 'NN', 'JJ']               corresponds      : ['VBZ']
community         : ['NN']                            audios           : ['NNS']
regulated         : ['VBN']                           openness         : ['NNP', 'NN', 'VB']
described         : ['VBN']                           transformations  : ['NNS']
create            : ['VB']                            acceptance       : ['NN']
due               : ['JJ']                            strategy         : ['NN']
reduction         : ['NN']                            citations        : ['NNS']
extends           : ['VBZ']                           pi               : ['NNP', 'NN']
generating        : ['VBG', 'VB']                    precision        : ['NN']
self-organizes    : ['NNS']                           understand       : ['VB', 'VBP']
representative    : ['JJ']                            systematic       : ['JJ']
demand            : ['NN']                            unify            : ['NN']
sub-dimensions    : ['NNS']                           reliable         : ['JJ']
```

empirical	: ['JJ']	evaluated	: ['VBN']
while	: ['IN', 'NN']	match	: ['VB', 'VBP']
evaluating	: ['VBG']	p.	: ['NN']
guide	: ['VB']	real	: ['JJ']
century	: ['NN']	faceted	: ['JJ']
obstacle	: ['NN']	externalize	: ['VB']
rules	: ['NNS']	widely	: ['RB']
survey	: ['NN']	composition	: ['NN']
higher	: ['JJR']	development	: ['NN']
used	: ['VBN']	expressiveness	: ['NNS']
flows	: ['NNS']	novwak	: ['NNP']
levels	: ['NNS']	moving	: ['VBG']
purpose	: ['NN']	kintsch	: ['NNP']
lower	: ['JJR']	task	: ['NN']
database	: ['NN']	navigation	: ['NN']
analysis	: ['NN']	person	: ['NN']
consistency	: ['NN']	organization	: ['NN']
construct	: ['VB']	questions	: ['NNS']
world	: ['NN']	love	: ['NN']
summaries	: ['NNS']	tables	: ['NNS']
relevancy	: ['NN']	extracted	: ['VBN', 'JJ']
advertisements	: ['NNS']	recognizing	: ['VBG']
source	: ['NN']	hyperlinks	: ['NNS']
location	: ['NN', 'VB']	relevance	: ['NN']
input	: ['NN', 'VB', 'NNP']	transformation	: ['NN', 'NNP']
build	: ['VB']	...	: [':', '.']
format	: ['NN']	big	: ['JJ']
genetically	: ['RB']	game	: ['NN']
marcu	: ['NNP']	formal	: ['JJ']
follows	: ['VBZ']	facets	: ['NNS']
collect	: ['VB']	individuals	: ['NNS']
essential	: ['JJ']	mathematical	: ['JJ']
methods	: ['NNS', 'NNP', 'RB', 'NN']	some	: ['DT']
back	: ['RB']	understood	: ['VBN']
economic	: ['JJ']	gradually	: ['RB']
scale	: ['NN']	decision	: ['NN']
gudivada	: ['NNP']	integration	: ['NN']
innovation	: ['NN']	professionals	: ['NNS']
inserting	: ['VBG']	be	: ['VB']
processing	: ['VBG', 'NN']	subtitles	: ['NNS']
viewpoints	: ['NNS']	readability	: ['RB', 'NN']
qing	: ['NNP']	chomsky	: ['NNP']
in-depth	: ['JJ']	range	: ['NN']
evidencing	: ['VBG']	into	: ['IN']
within	: ['IN']	appropriate	: ['JJ']
interactivity	: ['VB']	impressed	: ['VBN']
statistics	: ['NNPS', 'NNS']	innate	: ['JJ', 'NN']
retrieving	: ['VBG']	long	: ['JJ']
analyze	: ['VB']	sections	: ['NNS']

poster	: ['NN']		memory	: ['NN']	
link	: ['NN', 'VBP', 'VB']		multi-document	: ['JJ']	
-lrb-	: ['-LRB-']		line	: ['NN']	
zhu	: ['NNP']		characteristic	: ['NN']	
clips	: ['NNS']		verification	: ['NN']	
etc.	: ['FW']		sometimes	: ['RB']	
defined	: ['VBN']		influence	: ['VB', 'NN']	
single	: ['JJ']		diverse	: ['JJ']	
research	: ['NN', 'NNP']		modeling	: ['NN', 'NNP']	
hovy	: ['NNP']		composing	: ['VBG']	
rewriting	: ['VBG']		application	: ['NN']	
actors	: ['NNS']		explaining	: ['VBG']	
elements	: ['NNS']		users	: ['NNS']	
backbone	: ['NN']		problems	: ['NNS']	
regulations	: ['NNS']		meaning	: ['NN', 'VBG']	
baxendale	: ['JJ', 'NNP']		posters	: ['NNS']	
structure	: ['NN', 'VB']		dimensions	: ['NNS']	
ago	: ['RB']		independently	: ['RB']	
implies	: ['VBZ']		lead	: ['VBP', 'VB']	
algorithm	: ['NNP']		youtube	: ['NNP']	
2002	: ['CD', 'NNP']		2003	: ['CD']	
2000	: ['CD']		2001	: ['CD']	
2006	: ['CD']		2007	: ['CD']	
2004	: ['CD']		2005	: ['CD']	
2008	: ['CD']		2009	: ['CD']	
requires	: ['VBZ']		silber	: ['NNP']	
broaden	: ['VB']		results	: ['NNS', 'VBZ']	
existing	: ['VBG', 'JJ']		proposition	: ['NN']	
sigmund	: ['NNP']		query	: ['VB']	
issues	: ['NNS']		excludes	: ['VBZ']	
compose	: ['VB']		similar	: ['JJ']	
concerned	: ['VBN']		languages	: ['NNS']	
citing	: ['VBG']		helps	: ['VBZ']	
include	: ['VBP', 'VB']		pre-designed	: ['JJ']	
resources	: ['NNS']		inner-product	: ['JJ']	
garden	: ['NN']		implicitly	: ['RB', 'CD']	
putting	: ['VBG']		g.	: ['NNP']	
categories	: ['NNS']		arrange	: ['VB']	
understandings	: ['NNS']		picture-sharing	: ['JJ']	
experiencing	: ['VBG']		try	: ['VBP']	
licklider	: ['NN']		locate	: ['VB']	
video	: ['NN', 'JJ', 'NNP']		traveling	: ['VBG']	
plays	: ['VBZ']		business	: ['NN']	
multimedia	: ['JJ', 'VB', 'NNS']		find	: ['VB', 'VBP']	
access	: ['VB', 'NN']		experiment	: ['NN']	
values	: ['NNS']		3d	: ['CD']	
body	: ['NN']		focuses	: ['VBZ']	
led	: ['VBN']		lee	: ['NNP']	
degree	: ['NN']		explore	: ['VB']	

objects	: ['NNS']	let	: ['NNP']
separation	: ['NNP', 'NN']	others	: ['NNS']
layout	: ['NN']	invented	: ['VBN']
implicit	: ['JJ']	great	: ['JJ']
involved	: ['VBD', 'VBN']	larger	: ['JJR']
resulting	: ['VBG']	semantics-based	: ['VBZ', 'JJ']
opinion	: ['NN']	implement	: ['VB']
involves	: ['VBZ']	composed	: ['VBN']
up-to-date	: ['JJ']	scales	: ['NNS']
thin	: ['JJ']	hardy	: ['NNP']
names	: ['NNS']	motor	: ['NN']
apply	: ['VBP']	tools	: ['NNS']
use	: ['NN', 'VB']	from	: ['IN', 'VB']
e.g.	: ['NNP', 'JJ']	certificate	: ['NN']
carbonell	: ['NNP']	extractive	: ['NN', 'JJ']
reciprocity	: ['NN']	themselves	: ['PRP']
reflects	: ['VBZ']	touched	: ['VBD']
optimizing	: ['VBG']	journalists	: ['NNS']
on	: ['IN']	started	: ['VBD']
becomes	: ['VBZ']	cooperate	: ['VB']
normalized	: ['VBN']	iii	: ['NNP']
distilling	: ['VBG']	integrating	: ['VBG']
this	: ['DT']	axiom	: ['NN', 'NNP']
publications	: ['NNS']	reserved	: ['VBN']
classifications	: ['NNS']	links	: ['NNS', 'NN', 'NNP', 'VBZ']
process	: ['VBP', 'NN', 'VB']	high	: ['JJ']
effectively	: ['RB']	tag	: ['NN']
united	: ['JJ']	located	: ['VBN']
mccoy	: ['NNP']	establishment	: ['NN']
specifications	: ['NNS']	philosophy	: ['NN']
collection	: ['NN']	efficiently	: ['RB']
revising	: ['VBG']	separations	: ['NNS']
element	: ['NN']	symbol-like	: ['JJ']
produces	: ['VBZ']	symbols	: ['NNS']
abu-jbara	: ['NNP']	own	: ['JJ']
including	: ['VBG']	looks	: ['VBZ']
mentioned	: ['VBN']	multi-dimensional	: ['JJ']
lapata	: ['NNP']	relativity	: ['NNP', 'JJ']
tenenbaum	: ['NNP']	instruments	: ['NNS']
2014	: ['CD']	2011	: ['CD', 'NNP']
2010	: ['CD']	2013	: ['CD']
2012	: ['CD']	greater	: ['JJR']
practice	: ['NN']	often-cited	: ['JJ']
front	: ['NN']	realize	: ['VB']
abstractive	: ['JJ']	text-only	: ['JJ']
storyboard	: ['NN', 'JJ']	identified	: ['VBN']
merge	: ['VB']	transmitted	: ['JJ']
sub-graphs	: ['NNS']	map	: ['NN']
inevitably	: ['RB']	related	: ['VBN', 'JJ']

constitute	: ['VBP']	society	: ['NN']
books	: ['NNS']	static	: ['JJ']
measure	: ['NN']	our	: ['PRP$']
luhn	: ['NNP']	human-level	: ['JJ']
special	: ['JJ']	out	: ['RP', 'RB']
category	: ['VB', 'NN']	entertainment	: ['NN']
integrates	: ['VBZ']	elkiss	: ['NNP']
supports	: ['VBZ']	integrated	: ['VBN']
red	: ['JJ']	interactions	: ['NNS']
attending	: ['VBG']	approaches	: ['NNS', 'VBG']
retrieves	: ['JJ']	interaction	: ['NN']
phrases	: ['NNS']	raghavan	: ['NNP']
times	: ['NNS']	length	: ['NN']
davis	: ['NNP']	facilitate	: ['VB']
radev	: ['NNP']	reaches	: ['VBZ']
summarizers	: ['NNS', 'VBZ']	reached	: ['VBN']
1989	: ['NNP']	ceccato	: ['NNP']
salient	: ['JJ']	publication	: ['NN']
ordering	: ['VB']	system	: ['NN']
relations	: ['NNS']	priority	: ['NN']
their	: ['PRP$']	interests	: ['NNS']
accompany	: ['VB']	explanation	: ['NN']
slides	: ['NNP', 'NNS']	regards	: ['VBZ']
fuzzy	: ['RB']	remember	: ['VBP', 'VB']
richer	: ['JJR']	abstracts	: ['NNS']
distinguished	: ['VBN']	result	: ['NN']
behaviors	: ['NNS']	enforced	: ['JJ']
clip	: ['NN']	viewer	: ['NN']
curves	: ['NNS']	have	: ['VB', 'VBP']
need	: ['VBP']	linked	: ['VBN']
viewed	: ['VBN']	issue	: ['NN']
studying	: ['VBG']	able	: ['JJ']
mechanism	: ['NN']	concerns	: ['VBZ', 'NNS']
best	: ['JJS']	which	: ['WDT']
subject	: ['NN']	refocusing	: ['VBG']
who	: ['WP']	representation	: ['NN', 'NNP', 'VBZ']
class	: ['NN']	close-core	: ['JJ']
stronger	: ['JJR']	graphs	: ['NNS']
movie	: ['NN']	dijk	: ['NNP']
impression	: ['NN']	emerging	: ['VBG', 'VBZ']
selection	: ['VB', 'NNP', 'NN']	text	: ['JJ', 'NN']
high-level	: ['JJ']	minsky	: ['NNP']
based	: ['VBN']	knowledge	: ['NN', 'VB', 'NNP', 'JJ']
with	: ['IN']	should	: ['MD']
entities	: ['NNS']	candidates	: ['NNS']
reorganizing	: ['VBG']	means	: ['VBZ', 'NNS', 'NN']
familiar	: ['JJ']	words	: ['NNS']
coordinating	: ['VBG']	argues	: ['VBZ']
areas	: ['NNS']	processes	: ['NNS', 'VBZ']

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brain           : ['NN']                      contain         : ['VBP']
qi              : ['NN']                      cycles          : ['NNS']
view            : ['NN', 'VB', 'VBP']         knowing         : ['NN']
requirement     : ['NN']                      constructing    : ['VBG']
exists          : ['RB', 'VBZ']               frame           : ['NN']
humans          : ['NNS', 'JJ', 'RB']         operates        : ['VBZ']
computer        : ['NN']                      enhanced        : ['VBN']
responses       : ['NNS']                     interacting     : ['VBG']
placed          : ['VBN']                     pattern         : ['NN']
-rcb-           : ['-RRB-']                   incorporating   : ['VBG']
nanba           : ['NNP']                     written         : ['VBN']
closed          : ['VB', 'JJ', 'VBN']         progress        : ['NN']
boundary        : ['NN']                      ability         : ['NN']
linguistics     : ['NNS']                     efficiency      : ['NN']
key             : ['JJ', 'NN']                problem         : ['NN']
jon             : ['NNP']                     commenting      : ['VBG']
freely          : ['RB']                      taking          : ['VBG']
minds           : ['NNS']                     etc             : ['FW']
streams         : ['VBZ', 'NNS']              otherwise       : ['RB']
comment         : ['NN']                      relevant        : ['JJ']
distinguish     : ['VB']                      sequences       : ['NNS']
table           : ['NN']                      equips          : ['VBZ']
addition        : ['NN']                      trajectory      : ['JJ']
indicators      : ['NNS']                     senses          : ['NNS']
diversity       : ['NN']                      coherence       : ['VB', 'NNP']
subspace        : ['NN']                      sensed          : ['VBD']
general         : ['JJ', 'NNP']               novel           : ['NN']
cvs             : ['NNP']                     value           : ['NN']
will            : ['MD']                      pictures        : ['NNS', 'NNP', 'VBZ']
supply          : ['NN']                      ekin            : ['NNP']
murphy          : ['NNP']                     thus            : ['RB']
generic         : ['JJ']                      unity           : ['NN']
smarter         : ['RBR']                     units           : ['NNS']
difficult       : ['JJ']                      material        : ['NN']
automation      : ['VB']                      transformational: ['JJ']
architectures   : ['NNS']                     contribution    : ['NN']
keep            : ['VB']                      center          : ['NN']
neural          : ['NNP']                     modeled         : ['VBN']
patterns        : ['NNS']                     sets            : ['NNS']
audio           : ['JJ', 'NN']                less            : ['JJR']
hybrid          : ['NN', 'JJ']                sources         : ['NNS']
underlying      : ['VBG', 'JJ']               rest            : ['NN']
navlakha        : ['NNP']                     coordination    : ['NN']
low-level       : ['JJ']                      web             : ['NNP', 'NN']
rapid           : ['JJ']                      large-scale     : ['JJ']
lattice         : ['NN']                      add             : ['VB']
other           : ['JJ']                      adoption        : ['NN']
attractive      : ['JJ']                      propositions    : ['JJ']
usage           : ['VBP', 'NN']               smart           : ['JJ']
```

nenkova	: ['NNP']	articles	: ['NNS']
know	: ['VB']	deployment	: ['NN']
immediately	: ['RB']	insert	: ['VB']
necessary	: ['JJ']	like	: ['IN']
dictionaries	: ['NNS']	loses	: ['VBZ']
become	: ['VBN']	works	: ['NNS']
because	: ['IN', 'RB']	sequence	: ['NN']
shen	: ['NNP']	phenomena	: ['NNS']
searching	: ['VBG']	convey	: ['VB']
neglecting	: ['VBG']	recognition	: ['NN']
happens	: ['VBZ']	o.gross	: ['NNP']
does	: ['VBZ']	chains	: ['NNS']
limitations	: ['NNS']	reaching	: ['VBG']
selecting	: ['VBG', 'NNP']	journal	: ['NN']
expansion	: ['NN']	includes	: ['VBZ']
stage	: ['NN']	about	: ['IN', 'RB']
carried	: ['VBN']	extension	: ['NN']
introduces	: ['VBZ']	carries	: ['VBZ']
software	: ['NN']	owl	: ['NNP']
rendered	: ['VBN', 'VBD']	functional	: ['CD']
1986	: ['CD']	1985	: ['CD']
1982	: ['CD']	synthesized	: ['JJ']
artifacts	: ['NNS']	museum	: ['NN']
popularity	: ['NN']	intention	: ['NN']
describes	: ['VBZ']	slow-motion	: ['JJ']
function	: ['NN']	but	: ['CC']
hu	: ['NNP']	construction	: ['NN']
goals	: ['NNS']	versatile	: ['JJ']
also	: ['RB']	made	: ['VBN']
places	: ['NNS']	whether	: ['VB', 'IN']
formalized	: ['VBN']	record	: ['VB']
frequency	: ['NN']	distribution	: ['NN']
piece	: ['NN']	display	: ['NN']
int	: ['NN', 'NNP']	recognize	: ['VB']
universal	: ['JJ']	denote	: ['VBP']
webpages	: ['NNS']	reflecting	: ['VBG']
education	: ['NN']	humanized	: ['JJ']
functions	: ['NNS']	book	: ['NN']
details	: ['NNS']	turkeltaub	: ['NNP']
conclusion	: ['NN', 'JJ']	kinds	: ['NNS']
ranks	: ['NNS']	agrawal	: ['NNP']
rule	: ['NN']	compete	: ['VB']
volumes	: ['NNS']	4d	: ['CD']