```
f0003:

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to              : 482     in              : 391    semantic        : 327    -rrb-           : 250
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with            : 106     cyber           : 105    will            : 105    physical        : 104
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from            : 88      that            : 87     images          : 84     an              : 83
complex         : 78      by              : 76     interaction     : 76     reasoning       : 74
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cp3sme          : 53      have            : 53     semantics       : 53     interactions    : 52
environment     : 52      influence       : 50     one             : 49     network         : 48
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such            : 37      more            : 37     energy          : 37     intelligence    : 37
this            : 37      knowledge       : 37     reflect         : 36     relations       : 36
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which           : 32      evolution       : 32     web             : 32     flow            : 30
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artifact        : 28      when            : 28     like            : 28     process         : 28
emerging        : 28      machine         : 27     research        : 27     into            : 27
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real-time       : 25      evolve          : 25     has             : 25     than            : 25
services        : 25      their           : 25     types           : 24     model           : 24
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social          : 21      individual      : 21     enables         : 21     used            : 21
languages       : 21      society         : 21     effect          : 21     support         : 20
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development     : 19      use             : 19     networks        : 19     who             : 19
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computing       : 18      characteristics : 18     same            : 18     events          : 18
objects         : 18      machines        : 17     basic           : 17     so              : 17
situation       : 17      loops           : 17     interactive     : 17     community       : 17
symbols         : 17      minds           : 17     layer           : 17     answer          : 16
explain         : 16      natural         : 16     any             : 16     where           : 16
experience      : 16      resources       : 16     system          : 16     ability         : 16
principles      : 15      method          : 15     cyber-physical-socio: 15 sense           : 15
```

rather	: 15	help	: 15	set	: 15	questions	: 15
within	: 15	structure	: 15	multi-dimensional	: 15	type	: 14
classes	: 14	mind	: 14	indicate	: 14	dimension	: 14
self-organized	: 14	levels	: 14	implicit	: 14	text	: 14
life	: 13	commonsense	: 13	understanding	: 13	mechanisms	: 13
continuous	: 13	laws	: 13	these	: 13	hypertext	: 13
operation	: 13	since	: 13	about	: 13	89	: 13
brain	: 13	well	: 13	he	: 13	effects	: 12
sensors	: 12	service	: 12	make	: 12	things	: 12
materials	: 12	proposed	: 12	current	: 12	data	: 12
ideal	: 12	using	: 12	two	: 12	systems	: 12
during	: 12	create	: 12	users	: 12	issues	: 12
depicted	: 12	out	: 12	explanation	: 12	attributes	: 12
agents	: 12	reflection	: 12	know	: 12	concepts	: 11
abstracted	: 11	points	: 11	reference	: 11	10	: 11
among	: 11	certain	: 11	lifetime	: 11	all	: 11
mapping	: 11	number	: 11	hyperlink	: 11	reflects	: 11
function	: 11	methodology	: 10	abstraction	: 10	then	: 10
applications	: 10	times	: 10	motion	: 10	concern	: 10
design	: 10	generation	: 10	appropriate	: 10	apple	: 10
related	: 10	reflecting	: 10	mechanism	: 10	sensing	: 10
does	: 10	co-experiencing	: 10	even	: 9	provide	: 9
effective	: 9	formation	: 9	created	: 9	distance	: 9
just	: 9	if	: 9	harmony	: 9	adding	: 9
depicts	: 9	co-experience	: 9	level	: 9	harmonious	: 9
requirements	: 9	sn	: 9	first	: 9	were	: 9
potential	: 9	diversity	: 9	many	: 9	called	: 9
learning	: 9	scientific	: 9	a1	: 9	evolves	: 9
health	: 9	generate	: 9	kind	: 9	turing	: 9
processing	: 9	control	: 9	modeling	: 9	patterns	: 9
because	: 9	functions	: 9	limited	: 8	changed	: 8
approaches	: 8	object	: 8	thoughts	: 8	indirect	: 8
concept	: 8	live	: 8	needs	: 8	representation	: 8
theory	: 8	symmetry	: 8	given	: 8	lens	: 8
future	: 8	them	: 8	develop	: 8	includes	: 8
pass	: 8	establish	: 8	event	: 8	instances	: 8
culture	: 8	whole	: 8	raise	: 8	due	: 8
higher	: 8	behaving	: 8	behavior	: 8	existing	: 8
include	: 8	intelligent	: 8	memex	: 8	interacting	: 8
lead	: 8	a2	: 8	made	: 8	indicates	: 7
fig	: 7	exploring	: 7	approach	: 7	extend	: 7
dynamicity	: 7	models	: 7	science	: 7	improving	: 7
ideas	: 7	you	: 7	scientists	: 7	fundamental	: 7
philosophical	: 7	interact	: 7	schema	: 7	signals	: 7
location	: 7	question	: 7	line	: 7	similar	: 7
single	: 7	diverse	: 7	zooming	: 7	web/internet	: 7
query	: 7	cyber-physical	: 7	others	: 7	scales	: 7
including	: 7	could	: 7	documents	: 7	words	: 7
although	: 7	versatile	: 7	rule	: 7	disciplines	: 6

direct	: 6	changes	: 6	work	: 6	typed	: 6
personal	: 6	little	: 6	principle	: 6	do	: 6
cooperation	: 6	nature	: 6	interacts	: 6	op1	: 6
op2	: 6	op3	: 6	specific	: 6	beings	: 6
relational	: 6	usually	: 6	values	: 6	derive	: 6
em	: 6	emerges	: 6	friend	: 6	way	: 6
answering	: 6	get	: 6	solve	: 6	real	: 6
output	: 6	competition	: 6	there	: 6	statuses	: 6
difference	: 6	past	: 6	search	: 6	texts	: 6
controlling	: 6	derived	: 6	hierarchy	: 6	food	: 6
idea	: 6	determined	: 6	both	: 6	composition	: 6
person	: 6	bc	: 6	defined	: 6	indicating	: 6
self-similarity	: 6	cooperate	: 6	integrating	: 6	schemas	: 6
object-oriented	: 6	87	: 6	representations	: 6	well-being	: 6
should	: 6	view	: 6	sensed	: 6	study	: 5
indicated	: 5	worldview	: 5	description	: 5	production	: 5
large	: 5	organize	: 5	meaning	: 5	situations	: 5
architecture	: 5	result	: 5	oomd	: 5	extent	: 5
suggested	: 5	basis	: 5	cultural	: 5	harmoniously	: 5
short-term	: 5	efforts	: 5	forming	: 5	''	: 5
-lcb-	: 5	layers	: 5	studied	: 5	explicit	: 5
establishing	: 5	domain	: 5	11	: 5	pages	: 5
actively	: 5	reading	: 5	external	: 5	developing	: 5
extended	: 5	no	: 5	aspects	: 5	early	: 5
ontology	: 5	slns	: 5	area	: 5	removing	: 5
technologies	: 5	general	: 5	students	: 5	a3	: 5
issue	: 5	tea	: 5	movement	: 5	takes	: 5
learn	: 5	existence	: 5	detected	: 5	channels	: 5
connect	: 5	denoted	: 5	reason	: 5	motivation	: 5
peer-to-peer	: 5	significant	: 5	traditional	: 5	triangle	: 5
available	: 5	belong	: 5	database	: 5	analysis	: 5
distances	: 5	consensus	: 5	creation	: 5	back	: 5
economic	: 5	measured	: 5	generated	: 5	paintings	: 5
explore	: 5	rdf	: 5	themselves	: 5	challenge	: 5
efficiently	: 5	introduced	: 5	clusters	: 5	realize	: 5
82	: 5	priority	: 5	need	: 5	mappings	: 5
areas	: 5	computer	: 5	-rcb-	: 5	interface	: 5
units	: 5	large-scale	: 5	add	: 5	necessary	: 5
phenomena	: 5	construction	: 5	problem	: 5	ecological	: 5
dynamic	: 4	graph-based	: 4	cooperatively	: 4	established	: 4
zoom-out	: 4	net	: 4	path	: 4	explained	: 4
browse	: 4	organized	: 4	classifying	: 4	operate	: 4
satisfied	: 4	writing	: 4	features	: 4	roles	: 4
tree	: 4	project	: 4	isolated	: 4	transmit	: 4
effectiveness	: 4	peers	: 4	professor	: 4	rich	: 4
depends	: 4	capacity	: 4	artificial	: 4	we	: 4
three	: 4	several	: 4	belongs	: 4	performance	: 4
security	: 4	ensure	: 4	automatically	: 4	rely	: 4
differences	: 4	devices	: 4	actuators	: 4	role	: 4

global	: 4	word	: 4	emphasized	: 4	discover	: 4
uniform	: 4	supporting	: 4	teacher	: 4	healthy	: 4
navigation	: 4	memory	: 4	effort	: 4	raised	: 4
presence	: 4	coordinates	: 4	cognition	: 4	arrows	: 4
shows	: 4	thing	: 4	place	: 4	open	: 4
structures	: 4	population	: 4	13	: 4	sciences	: 4
online	: 4	resource	: 4	vision	: 4	formed	: 4
document	: 4	relies	: 4	thinking	: 4	easily	: 4
ai	: 4	follow	: 4	preserved	: 4	further	: 4
subspaces	: 4	action	: 4	analyzing	: 4	uniformity	: 4
paper	: 4	reflected	: 4	evaluation	: 4	base	: 4
probability	: 4	feel	: 4	part	: 4	toward	: 4
organs	: 4	orders	: 4	interconnection	: 4	added	: 4
experiences	: 4	page	: 4	sustainable	: 4	uses	: 4
long-term	: 4	great	: 4	understand	: 4	loop	: 4
user	: 4	hyperlinks	: 4	transformation	: 4	methods	: 4
behave	: 4	innovation	: 4	77	: 4	76	: 4
long	: 4	composing	: 4	problems	: 4	robots	: 4
results	: 4	concerned	: 4	pre-designed	: 4	categories	: 4
access	: 4	facets	: 4	buildings	: 4	constraints	: 4
ask	: 4	facilitate	: 4	interests	: 4	richer	: 4
studying	: 4	on-demand	: 4	why	: 4	contain	: 4
efficiency	: 4	indicators	: 4	value	: 4	2010	: 4
simple	: 4	expansion	: 4	multi-disciplinary	: 4	software	: 4
networking	: 4	whether	: 4	similarity	: 3	four	: 3
under	: 3	classifications	: 3	enhance	: 3	47	: 3
browsing	: 3	mutual	: 3	unit	: 3	transforming	: 3
maintain	: 3	algorithms	: 3	order	: 3	over	: 3
pervasive	: 3	classified	: 3	reasonable	: 3	scopes	: 3
perception	: 3	associate	: 3	correctness	: 3	render	: 3
adopted	: 3	corpus	: 3	modern	: 3	contents	: 3
extending	: 3	notion	: 3	bush	: 3	establishes	: 3
techniques	: 3	continually	: 3	conceptual	: 3	he/she	: 3
improve	: 3	climate	: 3	adapted	: 3	active	: 3
much	: 3	designers	: 3	transformed	: 3	advanced	: 3
51	: 3	often	: 3	influencing	: 3	his/her	: 3
delete	: 3	abstract	: 3	exist	: 3	digital	: 3
leads	: 3	hold	: 3	orthogonal	: 3	emphasizes	: 3
revolution	: 3	centrality	: 3	sharing	: 3	analogical	: 3
labeled	: 3	making	: 3	inheritance	: 3	produce	: 3
80	: 3	mainly	: 3	still	: 3	window	: 3
shown	: 3	increase	: 3	inductive	: 3	cycles	: 3
directly	: 3	structured	: 3	12	: 3	15	: 3
14	: 3	topics	: 3	especially	: 3	developed	: 3
regarding	: 3	ways	: 3	nearby	: 3	prototype	: 3
enable	: 3	engineering	: 3	good	: 3	author	: 3
macro	: 3	guided	: 3	grounded	: 3	around	: 3
read	: 3	grid	: 3	organizing	: 3	generates	: 3
dimensions	: 3	decomposition	: 3	communication	: 3	low	: 3

define	: 3	describe	: 3	represent	: 3	children	: 3
co-computing	: 3	accompanying	: 3	operating	: 3	family	: 3
select	: 3	destination	: 3	particular	: 3	respective	: 3
influences	: 3	communicating	: 3	retrieval	: 3	essence	: 3
pronomes	: 3	framework	: 3	micro	: 3	found	: 3
friendship	: 3	hard	: 3	beyond	: 3	major	: 3
construct	: 3	translation	: 3	aims	: 3	internal	: 3
play	: 3	find	: 3	his	: 3	express	: 3
shared	: 3	stored	: 3	locating	: 3	context	: 3
reasons	: 3	described	: 3	pj	: 3	pi	: 3
assigning	: 3	guide	: 3	regulate	: 3	traffic	: 3
waste	: 3	collect	: 3	sketch	: 3	scale	: 3
together	: 3	mobile	: 3	autonomous	: 3	application	: 3
age	: 3	go	: 3	helps	: 3	experiencing	: 3
opinion	: 3	decentralized	: 3	motor	: 3	fed	: 3
carrying	: 3	high	: 3	effectively	: 3	regions	: 3
co-evolve	: 3	philosophy	: 3	multiplication	: 3	light	: 3
facilitates	: 3	constitute	: 3	81	: 3	special	: 3
adaptive	: 3	cause	: 3	keep	: 3	accompany	: 3
distinguished	: 3	viewed	: 3	able	: 3	instance	: 3
best	: 3	collaboration	: 3	connected	: 3	minsky	: 3
means	: 3	coordinating	: 3	requirement	: 3	statistical	: 3
state	: 3	routing	: 3	bridges	: 3	key	: 3
addition	: 3	senses	: 3	corresponding	: 3	present	: 3
input	: 3	modeled	: 3	coordination	: 3	facial	: 3
home	: 3	selecting	: 3	self-organization	: 3	stage	: 3
extension	: 3	dependence	: 3	functional	: 3	places	: 3
denote	: 3	virtual	: 3	consists	: 2	ontological	: 2
collaborate	: 2	navigating	: 2	human-machine	: 2	crops	: 2
enjoy	: 2	force	: 2	euclidean	: 2	above	: 2
simultaneously	: 2	notions	: 2	represented	: 2	suitable	: 2
total	: 2	therefore	: 2	recommend	: 2	tell	: 2
90	: 2	ma	: 2	thales	: 2	preserving	: 2
involve	: 2	after	: 2	keeps	: 2	executes	: 2
cause-effect	: 2	laozi	: 2	enrich	: 2	grand	: 2
break	: 2	structural	: 2	represents	: 2	brings	: 2
content	: 2	adapt	: 2	creates	: 2	instruct	: 2
historical	: 2	abstracting	: 2	navigate	: 2	assessed	: 2
cyber-physical-physiological-psychological-socio-mental: 2		k-line	: 2	pursuing	: 2		
integrate	: 2						
wide	: 2	plato	: 2	incorporating	: 2	wikipedia	: 2
readers	: 2	argue	: 2	quickly	: 2	interest	: 2
light-weight	: 2	determining	: 2	aim	: 2	remembering	: 2
perform	: 2	hierarchies	: 2	cycle	: 2	photo	: 2
proposes	: 2	ease	: 2	passive	: 2	technological	: 2
possible	: 2	unification	: 2	background	: 2	52	: 2
meters	: 2	limitation	: 2	intercultural	: 2	propagate	: 2
soa	: 2	contains	: 2	statements	: 2	facility	: 2
maxwell	: 2	preliminary	: 2	rendering	: 2	right	: 2

word	:	freq	word	:	freq	word	:	freq	word	:	freq
refined	:	2	transform	:	2	questionable	:	2	ni	:	2
daily	:	2	graph	:	2	two-way	:	2	isonomes	:	2
falling	:	2	along	:	2	box	:	2	cases	:	2
confucius	:	2	longitude	:	2	predict	:	2	agent	:	2
discussion	:	2	map	:	2	designer	:	2	explores	:	2
designed	:	2	conscious	:	2	pollution	:	2	motions	:	2
argued	:	2	unveiling	:	2	views	:	2	retrieve	:	2
breakthrough	:	2	ep	:	2	hardware	:	2	carry	:	2
nutrition	:	2	mining	:	2	representing	:	2	17	:	2
16	:	2	apples	:	2	accessed	:	2	files	:	2
locations	:	2	attribute-based	:	2	efficient	:	2	take	:	2
objective	:	2	channel	:	2	price	:	2	cortex	:	2
enough	:	2	enriched	:	2	definite	:	2	analyzed	:	2
cities	:	2	motivations	:	2	61	:	2	67	:	2
linguistic	:	2	photos	:	2	observe	:	2	those	:	2
sub-schema	:	2	cluster	:	2	intelligently	:	2	speech	:	2
fruit	:	2	minimize	:	2	without	:	2	coordinate	:	2
touch	:	2	preference	:	2	execution	:	2	benefit	:	2
satisfactory	:	2	provided	:	2	provides	:	2	semantically	:	2
communicate	:	2	discussed	:	2	neighbor	:	2	act	:	2
road	:	2	multi-space	:	2	behavior-based	:	2	beliefs	:	2
required	:	2	imagination	:	2	collaborative	:	2	a4	:	2
spouse	:	2	building	:	2	starting	:	2	decisions	:	2
causes	:	2	activities	:	2	t0	:	2	small	:	2
invention	:	2	perspective	:	2	nonlinear	:	2	public	:	2
contrast	:	2	answers	:	2	zoom-in	:	2	stretching	:	2
inspires	:	2	literary	:	2	surface	:	2	known	:	2
self-organize	:	2	evolved	:	2	specialized	:	2	history	:	2
arise	:	2	species	:	2	goal	:	2	acts	:	2
att	:	2	maps	:	2	25	:	2	29	:	2
alter	:	2	try	:	2	psychology	:	2	discrete	:	2
hill	:	2	imagine	:	2	definition	:	2	co-location	:	2
consequence	:	2	unhealthy	:	2	story	:	2	temperature	:	2
divorce	:	2	paranomes	:	2	newell	:	2	authors	:	2
recognizing	:	2	programmers	:	2	measures	:	2	reach	:	2
most	:	2	74	:	2	windows	:	2	sometimes	:	2
cover	:	2	physics	:	2	phenomenon	:	2	less	:	2
invoke	:	2	trees	:	2	enemy	:	2	common	:	2
art	:	2	close	:	2	visualize	:	2	expert	:	2
conditions	:	2	creating	:	2	attention	:	2	sub-healthy	:	2
sensitive	:	2	generating	:	2	demand	:	2	evaluated	:	2
larger	:	2	itself	:	2	lower	:	2	human-centered	:	2
useful	:	2	cup	:	2	source	:	2	parents	:	2
formal	:	2	mathematical	:	2	ecology	:	2	instantiating	:	2
run	:	2	coexist	:	2	up	:	2	us	:	2
continuously	:	2	tends	:	2	implies	:	2	vehicles	:	2
socrates	:	2	far	:	2	requires	:	2	having	:	2
entire	:	2	notes	:	2	video	:	2	plays	:	2
believed	:	2	involved	:	2	manage	:	2	refers	:	2

consumption	: 2	started	: 2	zooming-in	: 2	realized	: 2
agricultural	: 2	write	: 2	micro-environment	: 2	temporal	: 2
latitude	: 2	worlds	: 2	establishment	: 2	accompanies	: 2
transmitted	: 2	traces	: 2	88	: 2	retrieved	: 2
sustainability	: 2	explored	: 2	restaurants	: 2	reflexive	: 2
precisely	: 2	quality	: 2	publication	: 2	privacy	: 2
unknown	: 2	final	: 2	symbiosis	: 2	manipulation	: 2
observed	: 2	collecting	: 2	viewer	: 2	gravity	: 2
emerged	: 2	pursues	: 2	intentions	: 2	definitions	: 2
intrinsic	: 2	painting	: 2	high-level	: 2	inherited	: 2
achieve	: 2	overall	: 2	gray	: 2	knowing	: 2
pattern	: 2	importance	: 2	p2p	: 2	environments	: 2
table	: 2	airplanes	: 2	ensuring	: 2	cross	: 2
student	: 2	thought	: 2	firstly	: 2	audio	: 2
discord	: 2	obtain	: 2	sources	: 2	repositories	: 2
library	: 2	recommendation	: 2	chains	: 2	locate	: 2
eco-grid	: 2	cancelation	: 2	own	: 2	roads	: 2
soil	: 2	cells	: 2	record	: 2	display	: 2
recognize	: 2	universal	: 2	86	: 2	kinds	: 2
living	: 2	ranks	: 2	portion	: 2	compete	: 2
yellow	: 1	facilities	: 1	sleep	: 1	localized	: 1
feeding	: 1	teaching	: 1	worth	: 1	incurs	: 1
rise	: 1	connects	: 1	every	: 1	bringing	: 1
vast	: 1	differentiated	: 1	vector	: 1	unifying	: 1
locked-in	: 1	tired	: 1	phones	: 1	feasibility	: 1
second	: 1	49	: 1	implemented	: 1	expressions	: 1
organisms	: 1	cooking	: 1	near	: 1	designing	: 1
consisting	: 1	metadata	: 1	sunspot	: 1	pursuit	: 1
interpret	: 1	addnode	: 1	electricity	: 1	criticism	: 1
appropriately	: 1	would	: 1	motivate	: 1	negative	: 1
program	: 1	rationalism	: 1	separated	: 1	textnet	: 1
multi-channel	: 1	aware	: 1	equipments	: 1	correspondingly	: 1
91	: 1	92	: 1	heterogeneity	: 1	1999	: 1
neurons	: 1	rationalists	: 1	give	: 1	want	: 1
organizes	: 1	attract	: 1	verify	: 1	classify	: 1
m?a	: 1	minimized	: 1	summarize	: 1	meaningful	: 1
sparql	: 1	ultimate	: 1	restriction	: 1	interpretation	: 1
feedback	: 1	nets	: 1	better	: 1	cref	: 1
one-to-one	: 1	grammar	: 1	backgrounds	: 1	series	: 1
399	: 1	extract	: 1	ring	: 1	reused	: 1
restricted	: 1	mccarthy	: 1	got	: 1	free	: 1
cross-referenced	: 1	starts	: 1	+1	: 1	isb	: 1
rank	: 1	restrict	: 1	fiction	: 1	needed	: 1
too	: 1	john	: 1	insightful	: 1	enhancing	: 1
serve	: 1	incur	: 1	cyber-socio	: 1	expanding	: 1
magnetic-resonance	: 1	bridge	: 1	sees	: 1	respecting	: 1
raw	: 1	manner	: 1	addlink	: 1	overlays	: 1
relatively	: 1	1968	: 1	responsible	: 1	1963	: 1
recommended	: 1	optimized	: 1	morality	: 1	episode	: 1

inspire	: 1	opinions	: 1	labels	: 1	colors	: 1
participate	: 1	subtle	: 1	latent	: 1	addrule	: 1
summarizing	: 1	borrowed	: 1	supplies	: 1	seemly	: 1
textbooks	: 1	implication	: 1	automatic	: 1	delrule	: 1
sameage	: 1	detection	: 1	simplest	: 1	drawn	: 1
discovery	: 1	preserve	: 1	terms	: 1	restricting	: 1
effect-aware	: 1	carbon	: 1	merging	: 1	logic	: 1
negotiation	: 1	bachman	: 1	height	: 1	trust	: 1
speak	: 1	flexibly	: 1	puts	: 1	expected	: 1
collections	: 1	dynamically	: 1	duties	: 1	graphical	: 1
delnode	: 1	coherent	: 1	mcs	: 1	mcp	: 1
applied	: 1	rationally	: 1	balance	: 1	precede	: 1
entity-relation	: 1	machine-enabled	: 1	actuates	: 1	specialization	: 1
realizing	: 1	clearly	: 1	body-centered	: 1	evaluate	: 1
ispartof	: 1	meets	: 1	opportunity	: 1	scenario	: 1
programs	: 1	stimuli	: 1	fusion	: 1	simulated	: 1
paradigm	: 1	unified	: 1	newton	: 1	transforms	: 1
32	: 1	yet	: 1	monitored	: 1	candidate	: 1
character	: 1	evidences	: 1	massively	: 1	save	: 1
gave	: 1	clustered	: 1	shadow	: 1	59	: 1
58	: 1	55	: 1	54	: 1	57	: 1
56	: 1	zoom	: 1	53	: 1	offices	: 1
arbitrary	: 1	signal	: 1	performing	: 1	old	: 1
shuttles	: 1	temporally	: 1	intellect	: 1	sociology	: 1
electromagnetic	: 1	everything	: 1	asking	: 1	steps	: 1
participation	: 1	minimization	: 1	predicting	: 1	manufacturing	: 1
properties	: 1	nerve	: 1	primitive	: 1	obtaining	: 1
refines	: 1	balances	: 1	down	: 1	dreyfus	: 1
reducing	: 1	analogizing	: 1	compression	: 1	flying	: 1
fraction	: 1	on-line	: 1	happy	: 1	manufacturers	: 1
understandable	: 1	true	: 1	builds	: 1	maximum	: 1
mtl	: 1	stages	: 1	mirror	: 1	covers	: 1
expertise	: 1	dotted	: 1	locality	: 1	generally	: 1
reality	: 1	interested	: 1	test	: 1	nemes	: 1
mri	: 1	longer	: 1	privilege	: 1	irrigation	: 1
chain	: 1	triangle-based	: 1	subclass	: 1	computation	: 1
displaying	: 1	technique	: 1	1947	: 1	1945	: 1
answered	: 1	discovering	: 1	cyberphysical	: 1	nomes	: 1
1704	: 1	standards	: 1	leave	: 1	item	: 1
h-lam/t	: 1	multi-agent	: 1	slowed	: 1	cost	: 1
stands	: 1	sequential	: 1	inter-community	: 1	goes	: 1
cyber-physical-physiological-psychological-sociomental: 1		water	: 1	magnetism	: 1		
windowing	: 1						
tasks	: 1	regardless	: 1	internet/web	: 1	www.wikipedia.org	: 1
prove	: 1	jam	: 1	symbolized	: 1	black	: 1
diagrams	: 1	introducing	: 1	551	: 1	oop	: 1
cyber-physical-socio-ecological: 1		reviews	: 1	nearest	: 1	hears	: 1
locke	: 1	semi-structured	: 1	topic	: 1	occur	: 1
subconsciously	: 1	pre-defined	: 1	chemical	: 1	criterion	: 1

optimal	: 1	economy	: 1	mac	: 1	annotation	: 1
man	: 1	accelerates	: 1	compressing	: 1	inform	: 1
lsa	: 1	pointed	: 1	stability	: 1	structuring	: 1
experiments	: 1	group	: 1	stimulus-response	: 1	offers	: 1
pervade	: 1	coordinated	: 1	correspondence	: 1	non	: 1
semiotics	: 1	maintaining	: 1	name	: 1	realistic	: 1
co-experiences	: 1	significantly	: 1	abnormal	: 1	happen	: 1
avoided	: 1	small-scale	: 1	predefined	: 1	accomplish	: 1
replacing	: 1	rational	: 1	internet	: 1	formula	: 1
correct	: 1	rebuilding	: 1	telegraphy	: 1	semi-autonomous	: 1
cars	: 1	queries	: 1	unfriendly	: 1	training	: 1
programming	: 1	routed	: 1	massive	: 1	think	: 1
frequent	: 1	origin	: 1	initial	: 1	624	: 1
symbolic	: 1	sounds	: 1	engineer	: 1	exists	: 1
remotely	: 1	assimilates	: 1	uris	: 1	accurately	: 1
paranome	: 1	19	: 1	18	: 1	constructionism	: 1
outcome	: 1	note	: 1	green	: 1	begin	: 1
pain	: 1	trace	: 1	normal	: 1	hungry	: 1
managing	: 1	senior	: 1	nls	: 1	imagined	: 1
ground	: 1	awareness	: 1	closure	: 1	artist	: 1
medial	: 1	goal-directed	: 1	subtype	: 1	mapped	: 1
ignored	: 1	physically	: 1	re-emerge	: 1	arouses	: 1
connections	: 1	parking	: 1	detect	: 1	sites	: 1
boundaries	: 1	26	: 1	supermarket	: 1	come	: 1
originates	: 1	perceptions	: 1	469	: 1	region	: 1
enabling	: 1	60	: 1	62	: 1	63	: 1
64	: 1	stretched	: 1	66	: 1	68	: 1
69	: 1	specializing	: 1	epistemology	: 1	details	: 1
rebuilt	: 1	differently	: 1	wants	: 1	direction	: 1
irrelevant	: 1	disconnected	: 1	profiles	: 1	conferences	: 1
non-material	: 1	technology	: 1	www.dmoz.org	: 1	driven	: 1
invariance	: 1	components	: 1	researchers	: 1	transmitting	: 1
recycled	: 1	aspect	: 1	speed	: 1	captured	: 1
secondly	: 1	empiricism	: 1	versa	: 1	extensive	: 1
decomposed	: 1	unveil	: 1	externalization	: 1	grouping	: 1
moreover	: 1	memories	: 1	recorded	: 1	pioneer	: 1
business	: 1	1935	: 1	stations	: 1	industry	: 1
develops	: 1	greatly	: 1	sketches	: 1	locally	: 1
determine	: 1	einstein	: 1	logics	: 1	lot	: 1
cultures	: 1	reduce	: 1	regard	: 1	methodologies	: 1
promote	: 1	polynemes	: 1	vice	: 1	subclasses	: 1
expect	: 1	detailed	: 1	am	: 1	tasty	: 1
mathematic	: 1	storage	: 1	field	: 1	spatial	: 1
immunity	: 1	vertex	: 1	mass	: 1	nelson	: 1
directory	: 1	nutrient	: 1	machine-understandable: 1		pointing	: 1
executing	: 1	dish	: 1	long-run	: 1	equivalence	: 1
removal	: 1	tn	: 1	tm	: 1	homepage	: 1
belonging	: 1	relieve	: 1	dellink	: 1	very	: 1
problem-solving	: 1	condition	: 1	neurological	: 1	globality	: 1

list	: 1	intricately	: 1	t.	: 1	adjust	: 1
biological	: 1	foundation	: 1	rate	: 1	situated	: 1
section	: 1	overload	: 1	self-adaptive	: 1	compressed	: 1
generalizing	: 1	inspired	: 1	allows	: 1	via	: 1
screens	: 1	trained	: 1	commonalities	: 1	detecting	: 1
probabilities	: 1	taken	: 1	knows	: 1	initiated	: 1
constructs	: 1	telephone	: 1	zhuge	: 1	coincidently	: 1
strategies	: 1	challenging	: 1	share	: 1	accept	: 1
states	: 1	minimum	: 1	huge	: 1	space?artifact	: 1
questioning	: 1	tries	: 1	derives	: 1	short	: 1
anytime	: 1	co-exist	: 1	specifying	: 1	held	: 1
filters	: 1	developer	: 1	24	: 1	style	: 1
27	: 1	20	: 1	21	: 1	22	: 1
23	: 1	28	: 1	actually	: 1	gaze-centered	: 1
pursue	: 1	incompleteness	: 1	seeking	: 1	instructions	: 1
mystery	: 1	heavy	: 1	weight	: 1	wernicke	: 1
unnatural	: 1	denotes	: 1	semiotic	: 1	put	: 1
beginning	: 1	owners	: 1	computers	: 1	edges	: 1
relate	: 1	1874	: 1	neglects	: 1	regulation	: 1
assumption	: 1	store	: 1	implements	: 1	muscles	: 1
relationship	: 1	pronome	: 1	center	: 1	farming	: 1
recording	: 1	contrary	: 1	next-generation	: 1	treated	: 1
5-tuple	: 1	empiricists	: 1	sentences	: 1	paths	: 1
built	: 1	extracted	: 1	analogy	: 1	warnings	: 1
react	: 1	75	: 1	72	: 1	comparisons	: 1
probabilistic	: 1	79	: 1	78	: 1	constructed	: 1
bodies	: 1	predictable	: 1	doctors	: 1	converge	: 1
indicator	: 1	parameters	: 1	justice	: 1	distributed	: 1
being	: 1	flights	: 1	eruptions	: 1	showed	: 1
knowledge-based	: 1	logistic	: 1	activity	: 1	precaution	: 1
consciously	: 1	text-text	: 1	see	: 1	probable	: 1
probably	: 1	unconscious	: 1	missing	: 1	sold	: 1
general-purpose	: 1	coffee	: 1	distinguish	: 1	collaborators	: 1
influential	: 1	load	: 1	volcanic	: 1	regulated	: 1
adaptation	: 1	openness	: 1	outstanding	: 1	earthquake	: 1
whom	: 1	maintenance	: 1	engelbart	: 1	treatment	: 1
modelling	: 1	gap	: 1	adaptable	: 1	uncertain	: 1
33	: 1	evaluating	: 1	leaning	: 1	engineers	: 1
rif	: 1	externalize	: 1	virtually	: 1	widely	: 1
peoples	: 1	cyber-mental	: 1	yesterday	: 1	moving	: 1
stack	: 1	recent	: 1	supersede	: 1	obviously	: 1
regulating	: 1	abilities	: 1	tables	: 1	immigrating	: 1
causal-predictive	: 1	theorem	: 1	relevance	: 1	tea-cultural	: 1
build	: 1	...	: 1	trigg	: 1	big	: 1
showing	: 1	unlimited	: 1	follows	: 1	language-games	: 1
indication	: 1	terminology	: 1	b.	: 1	b4	: 1
one-way	: 1	accelerate	: 1	b2	: 1	b3	: 1
decision	: 1	augmenting	: 1	either	: 1	inserting	: 1
subconscious	: 1	viewpoints	: 1	become	: 1	anything	: 1

tracing	: 1	simulation	: 1	range	: 1	73	: 1
plan	: 1	computational	: 1	71	: 1	frames	: 1
clustering	: 1	statistics	: 1	straight-line	: 1	innate	: 1
thirdly	: 1	manufacture	: 1	criteria	: 1	externalizing	: 1
deployed	: 1	directed	: 1	characteristic	: 1	transmits	: 1
exploration	: 1	medical	: 1	reflections	: 1	explaining	: 1
draw	: 1	co-wave	: 1	regulations	: 1	fertilizer	: 1
independently	: 1	cooker	: 1	once	: 1	partial	: 1
issued	: 1	logic-based	: 1	classic	: 1	compose	: 1
vannevar	: 1	visualizing	: 1	worldviews	: 1	wave	: 1
end-of-use	: 1	telling	: 1	drinking	: 1	repository	: 1
assignments	: 1	reasoning/navigation: 1	deleting	: 1	versioning	: 1
logistics	: 1	limitations	: 1	odp	: 1	imply	: 1
life-time	: 1	optimize	: 1	giving	: 1	experiment	: 1
collins	: 1	focuses	: 1	fertilization	: 1	respectively	: 1
delivering	: 1	65	: 1	separation	: 1	safer	: 1
invented	: 1	suggest	: 1	39	: 1	38	: 1
receive	: 1	31	: 1	30	: 1	37	: 1
36	: 1	35	: 1	34	: 1	products	: 1
implement	: 1	collaborating	: 1	tools	: 1	metaphor	: 1
mirrors	: 1	few	: 1	camera	: 1	attribute	: 1
546	: 1	becomes	: 1	popper	: 1	central	: 1
account	: 1	defines	: 1	reproduce	: 1	obvious	: 1
industrial	: 1	fulfill	: 1	proof	: 1	favorite	: 1
purposes	: 1	pieces	: 1	reserves	: 1	dictation	: 1
expandable	: 1	syndrome	: 1	six	: 1	carries	: 1
located	: 1	service-oriented	: 1	unites	: 1	g?del	: 1
collection	: 1	reasoned	: 1	wittgenstein	: 1	redundant	: 1
metaphors	: 1	allow	: 1	berger	: 1	competing	: 1
interpreted	: 1	referencing	: 1	industries	: 1	b1	: 1
pop-up	: 1	defining	: 1	archival	: 1	richness	: 1
front	: 1	emotion	: 1	truth	: 1	activate	: 1
inputs	: 1	pursuits	: 1	static	: 1	variety	: 1
olderthan	: 1	measure	: 1	83	: 1	programmer	: 1
agriculture	: 1	category	: 1	behaviours	: 1	maximized	: 1
autopilot	: 1	red	: 1	high-performance	: 1	workflow	: 1
maintains	: 1	1984	: 1	completely	: 1	cyber-physiological	: 1
updating	: 1	explanations	: 1	length	: 1	scene	: 1
owner	: 1	reached	: 1	ancient	: 1	ordering	: 1
cross-referring	: 1	lifetimes	: 1	cyc	: 1	simulate	: 1
blind	: 1	distinguishes	: 1	patients	: 1	providing	: 1
sculpture	: 1	descriptions	: 1	sincerity	: 1	encyclopedias	: 1
acceleration	: 1	relatives	: 1	grounding	: 1	realizes	: 1
worldwide	: 1	unless	: 1	consequences	: 1	gather	: 1
request	: 1	databases	: 1	50	: 1	selection	: 1
supported	: 1	visualized	: 1	bring	: 1	partners	: 1
holistic	: 1	terminal	: 1	bases	: 1	fuel	: 1
local	: 1	photographs	: 1	lobe	: 1	displayed	: 1
commonality	: 1	organ	: 1	numerous	: 1	influenced	: 1

```
fixed             : 1    operates         : 1    enhanced         : 1    operated            : 1
berners-lee       : 1    purses           : 1    tend             : 1    favor               : 1
progress          : 1    interfaces       : 1    ends             : 1    summarization       : 1
interchangeable   : 1    e-learning       : 1    distribution     : 1    undetermined        : 1
limits            : 1    fused            : 1    taking           : 1    etc                 : 1
otherwise         : 1    ci               : 1    576              : 1    i.e.                : 1
taste             : 1    topology         : 1    adapting         : 1    route               : 1
mail              : 1    constructing     : 1    k-lines          : 1    harder              : 1
luckmann          : 1    vn               : 1    respected        : 1    micronemes          : 1
capture           : 1    education        : 1    privileges       : 1    parts               : 1
film              : 1    largest          : 1    practice         : 1    http                : 1
conceived         : 1    v1               : 1    polymorphism     : 1    neural              : 1
sets              : 1    position         : 1    meet             : 1    accurate            : 1
small-world       : 1    underlying       : 1    40               : 1    rapid               : 1
recommending      : 1    extends          : 1    combing          : 1    propositions        : 1
self-contained    : 1    increased        : 1    immediately      : 1    helpful             : 1
lost              : 1    sizes            : 1    leaves           : 1    works               : 1
soft              : 1    replacement      : 1    accessible       : 1    sequence            : 1
searching         : 1    ideals           : 1    superclass       : 1    vsm                 : 1
recognition       : 1    demonstrated     : 1    pressure         : 1    instinct            : 1
exhibit           : 1    carried          : 1    universe         : 1    introduces          : 1
dependency        : 1    owl              : 1    previously       : 1    euclidean-distance  : 1
1632              : 1    elastic          : 1    phrases          : 1    synthesizes         : 1
spread            : 1    trigger          : 1    naturally        : 1    subjective          : 1
collected         : 1    goals            : 1    automated        : 1    editing             : 1
chained           : 1    ecosystem        : 1    intangible       : 1    limit               : 1
friendof          : 1    farthest         : 1    contribute       : 1    mcm                 : 1
separating        : 1    recommendations  : 1    kant             : 1    48                  : 1
contest           : 1    46               : 1    44               : 1    45                  : 1
42                : 1    43               : 1    41               : 1    compares            : 1
84                : 1    85               : 1    pathways         : 1    rural               : 1
479               : 1    indirectly       : 1
```

```
WP_Fdic:
['the', 'DT']                    : 1381    ['and', 'CC']                   : 885    ['of', 'IN']        : 530
['to', 'TO']                     : 482     ['space', 'NN']                 : 468    ['in', 'IN']        : 390
['semantic', 'JJ']               : 307     ['-lrb-', '-LRB-']              : 250    ['-rrb-', '-RRB-']  : 250
['can', 'MD']                    : 242     ['is', 'VBZ']                   : 187    ['be', 'VB']        : 183
['spaces', 'NNS']                : 158     ['are', 'VBP']                  : 147    ['as', 'IN']        : 137
['for', 'IN']                    : 129     ['different', 'JJ']             : 122    ['links', 'NNS']    : 117
['link', 'NN']                   : 116     ['through', 'IN']               : 111    ['socio', 'NN']     : 111
['with', 'IN']                   : 106     ['will', 'MD']                  : 105    ['mental', 'JJ']    : 102
['physical', 'JJ']               : 102     ['between', 'IN']               : 99     ['on', 'IN']        : 95
['or', 'CC']                     : 95      ['cyber', 'NN']                 : 92     ['individuals', 'NNS'] : 90
['-rsb-', 'NNS']                 : 89      ['from', 'IN']                  : 88     ['images', 'NNS']   : 84
['an', 'DT']                     : 83      ['by', 'IN']                    : 76     ['complex', 'JJ']   : 73
['it', 'PRP']                    : 72      ['various', 'JJ']               : 72     ['reasoning', 'NN'] : 67
['interaction', 'NN']            : 63      ['rules', 'NNS']                : 59     ['multiple', 'JJ']  : 55
['some', 'DT']                   : 55      ['other', 'JJ']                 : 54     ['sln', 'NNP']      : 53
```

['interactions', 'NNS']	: 50	['-lsb-', 'VBG']	: 50	['environment', 'NN']	: 49
['semantics', 'NNS']	: 49	['according', 'VBG']	: 47	['one', 'CD']	: 45
['psychological', 'JJ']	: 45	['not', 'RB']	: 45	['how', 'WRB']	: 45
['that', 'IN']	: 45	['information', 'NN']	: 44	['network', 'NN']	: 44
['physiological', 'JJ']	: 44	['linking', 'VBG']	: 43	['example', 'NN']	: 42
['humans', 'NNS']	: 42	['behaviors', 'NNS']	: 41	['nodes', 'NNS']	: 40
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['89', 'CD']	: 13	['help', 'VB']	: 13	['set', 'NN']	: 13
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['39', 'CD']	: 1	['artifacts', 'VBG']	: 1	['number', 'NNP']	: 1

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['net', 'JJ']	: 1	['systems', 'NNPS']	: 1	['23', 'CD']	: 1
['users', 'NNP']	: 1	['enhanced', 'VBN']	: 1	['refines', 'VBZ']	: 1
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['farming', 'NN']	: 1	['constructionism', 'NNP']	: 1	['odp', 'NNP']	: 1
['neurons', 'NNS']	: 1	['developer', 'NN']	: 1	['cost', 'NN']	: 1
['links', 'NN']	: 1	['interact', 'VBN']	: 1	['questioning', 'NN']	: 1
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['inspire', 'VB']	: 1	['regulated', 'VBN']	: 1	['composing', 'VBD']	: 1
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['everything', 'NN']	: 1	['moreover', 'RB']	: 1	['belong', 'VB']	: 1
['hyperlink', 'VBZ']	: 1	['naturally', 'RB']	: 1	['pronome', 'NN']	: 1
['isb', 'NNP']	: 1	['t.', 'NN']	: 1	['teaching', 'NN']	: 1
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['30', 'CD']	: 1	['dellink', 'NNP']	: 1	['satisfied', 'VBN']	: 1
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['green', 'VBZ']	: 1	['optimal', 'JJ']	: 1	['every', 'DT']	: 1
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['relieve', 'VB']	: 1	['externalization', 'VBN']	: 1	['increased', 'VBN']	: 1
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['fusion', 'NN']	: 1	['criterion', 'NN']	: 1	['tracing', 'VBG']	: 1
['multi-agent', 'JJ']	: 1	['p2p', 'NN']	: 1	['components', 'NNS']	: 1
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['479', 'NNP']	: 1	['business', 'NN']	: 1	['relationship', 'NN']	: 1
['locally', 'RB']	: 1	['heterogeneity', 'RB']	: 1	['precaution', 'NN']	: 1
['static', 'JJ']	: 1	['very', 'RB']	: 1	['phones', 'NNS']	: 1
['rationally', 'RB']	: 1	['truth', 'NN']	: 1	['edges', 'NNS']	: 1
['probabilities', 'NNS']	: 1	['correct', 'JJ']	: 1	['terms', 'NNS']	: 1
['respectively', 'RB']	: 1	['am', 'VBP']	: 1	['recognition', 'NNP']	: 1
['intercultural', 'VBZ']	: 1	['differences', 'VB']	: 1	['primitive', 'JJ']	: 1

```
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['41', 'CD']                   : 1        ['helpful', 'JJ']         : 1        ['description', 'NNP']  : 1
['grouping', 'VBG']            : 1        ['progress', 'NN']        : 1        ['lsa', 'NNP']          : 1
['existing', 'JJ']             : 1        ['candidate', 'NN']       : 1        ['mcs', 'NNP']          : 1
['on-line', 'JJ']              : 1        ['sincerity', 'NN']       : 1        ['patients', 'NNS']     : 1
['being', 'NN']                : 1        ['training', 'VBG']       : 1        ['maximum', 'JJ']       : 1
['ground', 'NN']               : 1        ['near', 'JJ']            : 1        ['mining', 'NNP']       : 1
['close', 'JJ']                : 1        ['delivering', 'JJ']      : 1        ['semantics', 'VB']     : 1
['content', 'NN']              : 1        ['name', 'NN']            : 1        ['lot', 'NN']           : 1
['cultures', 'NNS']            : 1        ['focuses', 'VBZ']        : 1        ['+1', 'CD']            : 1
['reflexive', 'VBZ']           : 1        ['slns', 'NNPS']          : 1        ['yellow', 'JJ']        : 1
['demonstrated', 'VBN']        : 1        ['tn', 'NN']              : 1        ['true', 'JJ']          : 1
['human-centered', 'VBZ']      : 1        ['load', 'NN']            : 1        ['known', 'VBN']        : 1
['simplest', 'JJS']            : 1        ['denote', 'NN']          : 1        ['relations', 'NNP']    : 1
['tired', 'VBN']               : 1        ['puts', 'VBZ']           : 1        ['building', 'NN']      : 1


W_Pdic:
limited          : ['VBN', 'JJ']                    similarity      : ['NNP', 'VBZ', 'NN']
fig.             : ['NNP', 'CD', 'VBN']             dynamic         : ['JJ']
yellow           : ['JJ']                           four            : ['CD']
facilities       : ['NNS']                          sleep           : ['VB']
consists         : ['VBZ']                          semantic        : ['JJ', 'NNP', 'NN', 'VBZ']
localized        : ['JJ']                           feeding         : ['NN']
physiological    : ['JJ', 'NN']                     under           : ['IN']
teaching         : ['NN']                           ontological     : ['JJ']
worth            : ['JJ']                           collaborate     : ['VB']
navigating       : ['VBG', 'NNP']                   incurs          : ['VBZ']
rise             : ['NN']                           connects        : ['VBZ']
every            : ['DT']                            human-machine   : ['JJ']
classifications  : ['NNS']                          bringing        : ['VBG']
vast             : ['JJ']                           differentiated  : ['VBN']
crops            : ['NNS']                          graph-based     : ['JJ']
vector           : ['NNP']                          enhance         : ['VB']
unifying         : ['VBG']                          locked-in       : ['JJ']
enjoy            : ['VB']                            force           : ['NN']
disciplines      : ['NNS']                          tired           : ['VBN']
phones           : ['NNS']                          direct          : ['JJ', 'NNP']
feasibility      : ['NN']                           second          : ['JJ']
49               : ['CD']                            implemented     : ['VBN']
expressions      : ['NNS']                          machines        : ['NNPS', 'NNS']
cooperatively    : ['RB']                            even            : ['RB']
established       : ['VBN']                          organisms       : ['NNS']
euclidean        : ['NNP', 'JJ']                    zoom-out        : ['JJ', 'NN']
cooking          : ['JJ']                            near            : ['JJ']
reasoning        : ['VBZ', 'NN', 'VBG', 'VBD']      above           : ['IN', 'JJ']
designing        : ['VBG']                           new             : ['JJ', 'NNP']
net              : ['NN', 'NNP', 'JJ']              consisting      : ['VBG']
metadata         : ['NN']                            evolving        : ['JJ', 'VBG', 'VBZ']
```

simultaneously	: ['RB']	notions	: ['NNS']
sunspot	: ['NN']	47	: ['CD']
pursuit	: ['NN']	represented	: ['VBN']
path	: ['NN']	interpret	: ['VB']
addnode	: ['NNP']	study	: ['NN']
changed	: ['VBN']	approaches	: ['NNS', 'VBZ']
electricity	: ['NN']	browsing	: ['VBG', 'NN']
suitable	: ['JJ']	changes	: ['NNS', 'VBZ']
mutual	: ['JJ']	criticism	: ['NN']
appropriately	: ['RB']	classification	: ['NN', 'NNP']
explained	: ['VBN', 'VBD']	psychological	: ['JJ']
total	: ['JJ']	unit	: ['NN']
would	: ['MD']	browse	: ['VB', 'NN']
motivate	: ['VBP']	negative	: ['JJ']
program	: ['NN']	therefore	: ['RB']
recommend	: ['VB']	rationalism	: ['NNP']
type	: ['NN']	tell	: ['VB']
separated	: ['VBN']	textnet	: ['NNP']
multi-channel	: ['JJ']	aware	: ['JJ']
equipments	: ['NNS']	correspondingly	: ['RB']
real-time	: ['JJ', 'VB', 'NNP']	91	: ['CD']
90	: ['CD']	92	: ['CD']
heterogeneity	: ['RB']	ma	: ['NNP']
1999	: ['CD']	thales	: ['NNP', 'NNS']
work	: ['VB', 'NN', 'VBP']	neurons	: ['NNS']
concepts	: ['NNS']	example	: ['NN']
rationalists	: ['NNS']	indicated	: ['VBN', 'VBD']
give	: ['VB']	preserving	: ['VBG']
organized	: ['VBN']	involve	: ['VB', 'VBP']
indicates	: ['VBZ']	want	: ['VB']
organizes	: ['VBZ']	attract	: ['VB']
worldview	: ['NN']	provide	: ['VB', 'VBP']
verify	: ['VB']	machine	: ['NN']
how	: ['WRB']	methodology	: ['NN', 'NNP', 'VB']
answer	: ['VB', 'NN']	classify	: ['VB']
classifying	: ['VBG']	abstraction	: ['NN']
description	: ['NNP', 'NN']	transforming	: ['VBG']
typed	: ['JJ']	m?a	: ['NN']
after	: ['IN']	minimized	: ['JJ']
summarize	: ['VB']	meaningful	: ['JJ']
types	: ['NNS']	sparql	: ['NNP']
effective	: ['JJ']	life	: ['NN', 'NNP']
maintain	: ['VB']	algorithms	: ['NNS', 'VBZ']
ultimate	: ['JJ']	keeps	: ['VBZ']
operate	: ['VB']	order	: ['NN']
operations	: ['NNS', 'RB']	restriction	: ['NN']
interpretation	: ['NN']	feedback	: ['NN']
over	: ['IN']	satisfied	: ['VBN', 'JJ']
executes	: ['VBZ']	nets	: ['VBZ']

```
personal          : ['JJ']                         cause-effect      : ['NN']
writing           : ['VBG', 'NNP', 'NN']           better            : ['RBR']
production        : ['NN']                          fig               : ['VB', 'NNP']
cref              : ['VBG']                         then              : ['RB']
laozi             : ['NNP']                         enrich            : ['NNP', 'VBP']
grand             : ['JJ']                          break             : ['VB']
effects           : ['NNS']                         they              : ['PRP']
structural        : ['JJ']                          pervasive         : ['VBP', 'JJ']
represents        : ['VBZ']                         one-to-one        : ['JJ']
grammar           : ['NN']                          classified        : ['VBN', 'VBD']
backgrounds       : ['NNS']                         reasonable        : ['JJ']
each              : ['DT']                          evolve            : ['VB']
series            : ['NN']                          principles        : ['NNS']
399               : ['NNP']                         extract           : ['VB']
ring              : ['NN']                          brings            : ['VBZ']
large             : ['JJ']                          reused            : ['VBN']
network           : ['NN', 'NNP']                   restricted        : ['JJ']
mccarthy          : ['NNP']                         content           : ['JJ', 'NN']
adapt             : ['VB']                          got               : ['VBN']
scopes            : ['NNS']                         perception        : ['NN']
associate         : ['JJ']                          little            : ['JJ', 'RB']
free              : ['JJ']                           formation         : ['NN']
cross-referenced  : ['NNP']                         sensors           : ['NNS']
created           : ['VBD', 'VBN']                  starts            : ['NNS']
correctness       : ['NNS', 'NN']                   creates           : ['VBZ']
+1                : ['CD']                           isb               : ['NNP']
organize          : ['VB']                          features          : ['NNS']
render            : ['VB']                           rank              : ['NN']
restrict          : ['VB']                           instruct          : ['VB', 'VBP']
adopted           : ['VBD', 'VBN']                  another           : ['DT']
service           : ['NN']                           abstracted        : ['VBN']
fiction           : ['NN']                           needed            : ['VBN']
too               : ['RB']                           corpus            : ['NN']
john              : ['NNP']                          insightful        : ['JJ']
enhancing         : ['VBG']                          serve             : ['VBP']
incur             : ['VB']                           cyber-socio       : ['JJ']
expanding         : ['VBG']                          distance          : ['NN']
roles             : ['NNS', 'CD']                   tree              : ['NN']
project           : ['NN', 'NNP']                   classes           : ['NNS']
historical        : ['JJ']                           magnetic-resonance : ['JJ']
bridge            : ['NN']                           sees              : ['VBZ']
abstracting       : ['VBG']                          exploring         : ['VBG', 'VB']
respecting        : ['VBG']                          navigate          : ['VB']
modern            : ['JJ', 'NNP']                   mind              : ['NN', 'NNP']
raw               : ['JJ']                           socio             : ['NN', 'JJ', 'NNP']
manner            : ['NN']                           addlink           : ['NNP']
overlays          : ['NNS']                          contents          : ['NNS']
relatively        : ['RB']                           1968              : ['CD']
responsible       : ['JJ']                           isolated          : ['JJ', 'VBN']
```

```
1963                    : ['CD']
transmit                : ['VB', 'VBZ']
object                  : ['NN']
optimized               : ['JJ']
cyber-physical-physiological-psychological-socio-mental: ['NNP']
['NN']
peers                   : ['NNS']
professor               : ['NN']
points                  : ['NNS']
notion                  : ['NN']
inspire                 : ['VB']
labels                  : ['NNS']
participate             : ['VB']
make                    : ['VB']
just                    : ['RB']
situations              : ['NNS']
bush                    : ['NNP']
summarizing             : ['VBG']
pursuing                : ['VBG']
borrowed                : ['VBN']
establishes             : ['VBZ']
plato                   : ['NNP']
seemly                  : ['RB']
method                  : ['NN']
implication             : ['NN']
delrule                 : ['NNP']
sameage                 : ['JJ']
cyber-physical-socio: ['JJ', 'NNP', 'VB']
result                  : ['NN']
techniques              : ['NNS']
wikipedia               : ['NNP']
continually             : ['RB']
simplest                : ['JJS']
drawn                   : ['VBN']
discovery               : ['NN']
oomd                    : ['NNP']
terms                   : ['NNS']
nature                  : ['NN']
restricting             : ['VBG']
extent                  : ['NN']
improve                 : ['VB']
climate                 : ['NN']
merging                 : ['VBZ']
argue                   : ['VBP']
regarded                : ['VBD', 'VBN']
bachman                 : ['NNP']
active                  : ['JJ']
speak                   : ['VB']
puts                    : ['VBZ']

recommended             : ['VBN']
effectiveness           : ['NN']
extending               : ['VBG', 'VB']
assessed                : ['VBN']
                             morality          :
                                                 ['NN']
episode                 : ['NN']
flow                    : ['NN', 'VBP']
principle               : ['NN']
meaning                 : ['NN']
opinions                : ['NNS']
colors                  : ['NNS']
subtle                  : ['JJ']
latent                  : ['NNP']
addrule                 : ['NNP']
explain                 : ['VB']
k-line                  : ['JJ', 'NN']
rich                    : ['JJ']
integrate               : ['VB']
do                      : ['VBP']
wide                    : ['NNP']
supplies                : ['NNS']
textbooks               : ['NNS']
architecture            : ['NNP', 'NN']
automatic               : ['JJ']
reference               : ['NN']
detection               : ['NN']
depends                 : ['VBZ']
incorporating           : ['VBG']
capacity                : ['NN']
artificial              : ['JJ']
cooperation             : ['NNP', 'NN']
conceptual              : ['JJ']
approach                : ['NN']
preserve                : ['VB']
we                      : ['PRP']
extend                  : ['VB', 'VBP']
he/she                  : ['NN', 'VBP']
effect-aware            : ['JJ']
carbon                  : ['NN']
suggested               : ['VBD', 'VBN']
readers                 : ['NNS']
logic                   : ['NN']
adapted                 : ['VBN']
negotiation             : ['NN']
height                  : ['NN']
trust                   : ['NN']
flexibly                : ['RB']
basis                   : ['NN']
```

```
three          : ['CD']                        been           : ['VBN']
quickly        : ['RB']                        much           : ['JJ']
interest       : ['NN']                        basic          : ['JJ']
expected       : ['VBN']                       collections    : ['NNS']
dynamically    : ['RB']                        duties         : ['NNS']
graphical      : ['JJ']                        delnode        : ['NNP']
light-weight   : ['JJ']                        coherent       : ['JJ']
cp3sme         : ['NNP', 'NN', 'VBZ', 'CD']    mcs            : ['NNP']
mcp            : ['NNS']                        applied        : ['VBN']
has            : ['VBZ']                        determining    : ['VBG']
aim            : ['NN']                         rationally     : ['RB']
sln            : ['NNP', 'NN', 'VB']            balance        : ['NN']
precede        : ['JJ']                         remembering    : ['VBG']
have           : ['VBP', 'VB']                  entity-relation : ['JJ']
is             : ['VBZ']                        machine-enabled : ['JJ']
it             : ['PRP']                        in             : ['IN', 'RB']
actuates       : ['VBZ']                        interacts      : ['VBZ']
if             : ['IN']                         specialization : ['NN']
perform        : ['VB']                         things         : ['NNS']
realizing      : ['VB']                         clearly        : ['RB']
body-centered  : ['NN']                         complex        : ['JJ', 'VB', 'VBZ', 'NNS', 'NN']
harmony        : ['VBZ', 'NN']                  evaluate       : ['VB']
ispartof       : ['NN']                         hierarchies    : ['NNS']
several        : ['JJ']                         meets          : ['VBZ']
commonsense    : ['NNP', 'NN', 'JJ', 'VB']      opportunity    : ['NN']
thoughts       : ['NNS']                        cycle          : ['NN']
scenario       : ['NN']                         programs       : ['NNS']
stimuli        : ['NNS']                        fusion         : ['NN']
materials      : ['NNS']                        simulated      : ['VBN']
the            : ['DT']                          paradigm       : ['NN']
unified        : ['JJ']                         op1            : ['NNP', 'NNS']
op2            : ['NNS', 'NNP']                 op3            : ['NNS', 'NNP']
photo          : ['NN']                         newton         : ['NNP']
proposes       : ['VBZ']                        transforms     : ['VBZ']
human          : ['JJ', 'VBN', 'NN', 'NNP']     32             : ['CD']
yet            : ['CC']                          previous       : ['JJ']
adding         : ['VBG']                        designers      : ['NNS']
monitored      : ['VBN']                        candidate      : ['NN']
ease           : ['NN']                          character      : ['NN']
evidences      : ['NNS']                        passive        : ['JJ']
belongs        : ['VBZ']                        transformed    : ['VBN']
massively      : ['CD']                         technological  : ['JJ']
save           : ['VB']                         gave           : ['VBD']
which          : ['WDT', 'WP']                  possible       : ['JJ']
cultural       : ['JJ', 'NNP']                  unification    : ['NN']
background     : ['NN']                         performance    : ['NN']
clustered      : ['VBN']                        shadow         : ['NN']
depicts        : ['VBZ']                        advanced       : ['VBN', 'JJ']
harmoniously   : ['NN', 'RB']                   59             : ['CD']
```

58	: ['CD']		55	: ['CD']
54	: ['CD']		57	: ['CD']
56	: ['CD']		51	: ['CD']
zoom	: ['VB']		53	: ['CD']
52	: ['CD']		specific	: ['JJ']
offices	: ['NNS']		arbitrary	: ['JJ']
security	: ['NN']		signal	: ['NN']
performing	: ['VBG']		old	: ['JJ']
shuttles	: ['NNS']		people	: ['NNS']
temporally	: ['RB']		meters	: ['NNS']
multiple	: ['JJ']		indirect	: ['JJ', 'RB']
intellect	: ['NN']		short-term	: ['JJ', 'VB']
sociology	: ['NN']		for	: ['IN']
electromagnetic	: ['JJ']		everything	: ['NN']
asking	: ['VBG']		dynamicity	: ['VB', 'NN', 'RB']
steps	: ['NNS']		participation	: ['NN']
minimization	: ['NNS']		predicting	: ['VBG']
manufacturing	: ['VBG']		properties	: ['NNS']
limitation	: ['NN']		intercultural	: ['VBZ', 'JJ']
ensure	: ['VB']		propagate	: ['VB']
efforts	: ['NNS']		automatically	: ['RB']
soa	: ['NNP']		nerve	: ['NN']
primitive	: ['JJ']		contains	: ['VBZ']
statements	: ['NNS']		facility	: ['NN', 'NNP']
maxwell	: ['NNP']		preliminary	: ['JJ']
obtaining	: ['VBG']		refines	: ['VBZ']
balances	: ['VBZ']		down	: ['RP']
rendering	: ['VBG', 'NN']		beings	: ['NNS']
right	: ['JJ']		dreyfus	: ['NNP']
refined	: ['VBN']		reducing	: ['VBG']
analogizing	: ['VBD']		often	: ['RB']
rely	: ['VBP']		compression	: ['NNP']
support	: ['NN', 'VB', 'VBP']		flying	: ['VBG']
transform	: ['VB']		class	: ['NN']
influencing	: ['VBG']		fraction	: ['NN']
was	: ['VBD']		on-line	: ['JJ']
happy	: ['VBG']		questionable	: ['JJ']
form	: ['VB', 'NN', 'VBP']		manufacturers	: ['NNS']
forming	: ['VBG']		differences	: ['NNS', 'VB']
understandable	: ['JJ']		true	: ['JJ']
builds	: ['VBZ']		his/her	: ['NN']
maximum	: ['JJ']		devices	: ['NNS']
mtl	: ['NNP']		stages	: ['NNS']
delete	: ['VB']		computing	: ['VBG', 'NN']
abstract	: ['JJ']		mirror	: ['NN']
covers	: ['NNS']		''	: ["'''"]
expertise	: ['NN']		exist	: ['VBP', 'VB']
physical	: ['JJ', 'NN', 'NNP']		ni	: ['NN']
-lcb-	: ['-LRB-']		dotted	: ['JJ']

```
locality          : ['RB']                    generally         : ['RB']
reality           : ['NN']                    actuators         : ['NNS']
interested        : ['JJ']                    role              : ['NN']
digital           : ['JJ']                    test              : ['NN']
nemes             : ['NNS']                   mri               : ['NNP']
node              : ['NN', 'JJ', 'VBP']       's                : ['POS', 'VBZ']
models            : ['NNS']                   longer            : ['RB']
proposed          : ['VBN', 'VBD']            daily             : ['JJ']
time              : ['NN', 'VBZ', 'NNP']      privilege         : ['NN']
irrigation        : ['NN']                    concept           : ['NN']
chain             : ['NN']                    global            : ['JJ']
triangle-based    : ['JJ']                    leads             : ['VBZ']
subclass          : ['NNS']                   computation       : ['NN']
displaying        : ['VBG']                   layers            : ['NNS']
hold              : ['VB']                    graph             : ['NN']
technique         : ['NN']                    1947              : ['CD']
interactions      : ['NNS', 'NN', 'RB']       1945              : ['CD']
environment       : ['NNP', 'NN']             answered          : ['VBN']
discovering       : ['VBG']                   orthogonal        : ['JJ', 'RB', 'NN']
two-way           : ['JJ']                    emphasizes        : ['VBZ']
cyberphysical     : ['JJ']                    word              : ['NN']
emphasized        : ['VBD', 'VBN']            nomes             : ['NNS']
1704              : ['CD']                    co-experience     : ['VBP', 'NN', 'JJ', 'VB']
level             : ['NN']                    isonomes          : ['NNS', 'JJ']
standards         : ['NNS']                   leave             : ['VB']
item              : ['NN']                    h-lam/t           : ['NN']
science           : ['NN', 'VB', 'NNP']       revolution        : ['NN']
multi-agent       : ['JJ']                    discover          : ['VB']
cyber             : ['NN', 'JJ', 'NNP', 'VBP']  slowed          : ['VBN']
cost              : ['NN']                    stands            : ['VBZ']
uniform           : ['JJ']                    current           : ['JJ']
sequential        : ['JJ']                    inter-community   : ['JJ']
goes              : ['VBZ']                   cyber-physical-physiological-psychological-sociomental:
                                              ['NNP']
relational        : ['JJ']                    falling           : ['VBG']
supporting        : ['VBG']                   understanding     : ['NN', 'VBG']
water             : ['NN']                    magnetism         : ['NN']
along             : ['RP']                    teacher           : ['NN']
change            : ['NN', 'VB', 'NNP', 'VBP']  box             : ['NN']
healthy           : ['JJ']                    studied           : ['VBN', 'VBD']
usually           : ['RB']                    navigation        : ['NN']
windowing         : ['JJ']                    emerge            : ['VB', 'VBP', 'CD']
tasks             : ['NNS']                   regardless        : ['RB']
internet/web      : ['NNP']                   www.wikipedia.org : ['JJ']
prove             : ['VB']                    centrality        : ['NN', 'JJ']
live              : ['VB', 'VBP']             jam               : ['NNP']
memory            : ['NN']                    symbolized        : ['JJ']
black             : ['JJ']                    diagrams          : ['NNS']
introducing       : ['VBG']                   sharing           : ['NN', 'VBG']
```

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analogical        : ['JJ']                    551                  : ['CD']
oop               : ['NNP']                   cases                : ['NNS']
effort            : ['NN', 'NNP']             cyber-physical-socio-ecological: ['JJ']
confucius         : ['NNP', 'NNS']            longitude            : ['VBG', 'NN']
reviews           : ['VBZ']                   labeled              : ['JJ']
harmonious        : ['JJ']                    values               : ['NNS', 'VBZ']
can               : ['MD']                    following            : ['VBG', 'JJ', 'NN']
making            : ['VBG']                   nearest              : ['JJS']
hears             : ['VBZ']                   locke                : ['NNP']
predict           : ['VB']                    semi-structured      : ['JJ']
sense             : ['VB', 'NN', 'VBP']       agent                : ['NN']
topic             : ['NN']                    occur                : ['VBP']
subconsciously    : ['RB']                    pre-defined          : ['VBN']
requirements      : ['NNS']                   inheritance          : ['NN']
discussion        : ['NN']                    chemical             : ['JJ']
criterion         : ['NN']                    optimal              : ['JJ']
economy           : ['NN']                    map                  : ['NN']
designer          : ['NN']                    explores             : ['VBZ']
information       : ['NN']                    may                  : ['MD']
needs             : ['VBZ']                   applications         : ['NNS']
mac               : ['NNS']                   produce              : ['VBP', 'VB']
designed          : ['VBD', 'VBN']            improving            : ['NN', 'VBG']
such              : ['JJ', 'PDT']             data                 : ['NN', 'NNS']
annotation        : ['NN']                    man                  : ['NN']
natural           : ['JJ']                    accelerates          : ['VBZ']
80                : ['CD']                    conscious            : ['JJ']
explicit          : ['JJ']                    compressing          : ['VBG']
inform            : ['VB']                    so                   : ['RB', 'IN']
sn                : ['NNP']                   representation       : ['NN']
pollution         : ['NN']                    lsa                  : ['NNP']
pointed           : ['VBD']                   mainly               : ['RB']
raised            : ['VBD', 'VBN']            stability            : ['NN']
structuring       : ['VBG']                   experiments          : ['NNS']
motions           : ['NNS']                   argued               : ['VBD']
still             : ['RB']                    derive               : ['VBP', 'VB']
group             : ['NN']                    presence             : ['VB', 'NN']
stimulus-response : ['JJ']                    coordinates          : ['VBZ', 'NN', 'NNP']
forms             : ['NNS']                   window               : ['NN']
offers            : ['VBZ']                   pervade              : ['VBP']
coordinated       : ['VBN']                   correspondence       : ['NN']
non               : ['VB']                     unveiling            : ['VBG']
views             : ['VBZ', 'NNS']            evolution            : ['NNP', 'NN']
semiotics         : ['NNS']                   not                  : ['RB']
maintaining       : ['VBG']                   name                 : ['NN']
cognition         : ['NN']                    times                : ['NNS']
arrows            : ['NNS']                   establishing         : ['VBG', 'VB']
realistic         : ['JJ']                    co-experiences       : ['NNS']
em                : ['VBN', 'NNP']            domain               : ['NN']
retrieve          : ['VB']                    significantly        : ['RB']
```

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abnormal         : ['JJ']                          breakthrough    : ['NN']
happen           : ['VB']                          avoided         : ['VBN']
ep               : ['NN', 'VB']                    small-scale     : ['JJ']
predefined       : ['JJ']                          emerges         : ['VBZ']
shown            : ['VBN']                          accomplish      : ['VB']
space            : ['NN', 'NNP']                   increase        : ['VB', 'NN']
replacing        : ['VBG']                         rational        : ['JJ']
internet         : ['NN']                          formula         : ['NN']
correct          : ['JJ']                          hardware        : ['NN']
shows            : ['VBZ']                          rebuilding      : ['VBG']
theory           : ['NN']                          telegraphy      : ['NN']
semi-autonomous  : ['NNS']                         cars            : ['NNS']
queries          : ['NNS']                         mechanisms      : ['NNS']
unfriendly       : ['JJ']                          inductive       : ['JJ']
training         : ['VBG']                         cycles          : ['NNS']
language         : ['NNP', 'NN']                   programming     : ['NNP']
routed           : ['VBN']                          motion          : ['NN']
thing            : ['NN']                          place           : ['VB', 'NN']
massive          : ['JJ']                          think           : ['VB']
frequent         : ['JJ']                          first           : ['JJ', 'RB']
origin           : ['NN']                          initial         : ['JJ']
symmetry         : ['NNP', 'NN']                   624             : ['NNP']
symbolic         : ['JJ']                          one             : ['CD', 'PRP', 'NN']
directly         : ['RB']                          carry           : ['VB', 'VBP']
sounds           : ['NNS']                         open            : ['JJ', 'NNP']
engineer         : ['NN']                          given           : ['VBN']
exists           : ['VBZ']                          lens            : ['NN']
structured       : ['JJ']                          remotely        : ['RB']
indicate         : ['VB', 'VBP']                   assimilates     : ['VBZ']
structures       : ['NNS']                         uris            : ['NNP']
friend           : ['NN']                          nutrition       : ['NN']
mining           : ['NN', 'NNP']                   way             : ['NN']
that             : ['WDT', 'IN', 'DT']             continuous      : ['JJ', 'NNP']
accurately       : ['RB']                          artifact        : ['NN', 'NNP']
paranome         : ['NN']                          representing    : ['VBG']
than             : ['IN']                          semantics       : ['NNS', 'JJ', 'VB']
population       : ['NN']                          11              : ['CD', 'NNP']
10               : ['CD']                          13              : ['CD']
12               : ['CD']                          15              : ['CD']
14               : ['CD']                          17              : ['CD']
16               : ['CD']                          19              : ['CD']
18               : ['CD']                          constructionism : ['NNP']
future           : ['JJ', 'NN']                    apples          : ['NNS']
were             : ['VBD']                          accessed        : ['VBN']
outcome          : ['NN']                          and             : ['CC', 'NNP']
files            : ['NNS']                          topics          : ['NNS']
locations        : ['NNS']                          any             : ['DT']
attribute-based  : ['JJ']                          efficient       : ['JJ']
answering        : ['NN', 'VBG']                   ideas           : ['NNS']
```

note	: ['NN']		sciences	: ['NNPS', 'NNS']
ideal	: ['NN', 'JJ']		potential	: ['JJ']
take	: ['VBP', 'VB']		online	: ['NN', 'JJ']
objective	: ['JJ']		green	: ['VBZ']
channel	: ['NN']		begin	: ['VB']
pain	: ['VBG']		trace	: ['VB']
normal	: ['JJ']		price	: ['NN']
pages	: ['NNS']		especially	: ['RB']
diversity	: ['NN', 'VB']		hungry	: ['VBG']
managing	: ['VBG']		cortex	: ['NN']
senior	: ['JJ']		laws	: ['NNS']
nls	: ['NNP']		spaces	: ['NNS']
imagined	: ['VBN']		ground	: ['NN']
enough	: ['JJ']		only	: ['RB', 'JJ']
enriched	: ['VBN']		developed	: ['VBN']
awareness	: ['NN']		get	: ['VB']
closure	: ['NN']		regarding	: ['VBG']
resource	: ['NNP', 'NN']		artist	: ['NN']
medial	: ['JJ']		goal-directed	: ['JJ']
subtype	: ['NN']		mapped	: ['VBN']
where	: ['WRB']		vision	: ['NN']
ignored	: ['VBN']		physically	: ['RB']
re-emerge	: ['VB']		arouses	: ['VBZ']
connections	: ['NNS']		actively	: ['RB']
parking	: ['NN']		concern	: ['VB', 'NN']
detect	: ['VB']		ways	: ['NNS']
definite	: ['JJ']		sites	: ['NNS']
boundaries	: ['NNS']		between	: ['IN']
reading	: ['NNP', 'VBG']		26	: ['CD']
supermarket	: ['NN']		analyzed	: ['VBN']
cities	: ['NNS', 'NNPS']		come	: ['VB']
originates	: ['VBZ']		motivations	: ['NNS']
perceptions	: ['NNS']		469	: ['NNP']
many	: ['JJ']		region	: ['NN']
according	: ['VBG']		called	: ['VBN', 'VBD']
enabling	: ['VBG']		nearby	: ['JJ']
among	: ['IN']		60	: ['CD']
61	: ['CD']		62	: ['CD']
63	: ['CD']		64	: ['CD']
stretched	: ['VBN']		66	: ['CD']
67	: ['CD']		68	: ['CD']
69	: ['CD']		specializing	: ['VBZ']
epistemology	: ['NN']		details	: ['NNS']
-rrb-	: ['-RRB-']		linguistic	: ['JJ']
rebuilt	: ['VBN']		prototype	: ['NN']
differently	: ['RB']		wants	: ['VBZ']
direction	: ['NN']		enable	: ['VB', 'VBP']
formed	: ['VBN']		photos	: ['NNS']
observe	: ['VB', 'VBP']		external	: ['JJ']

irrelevant	: ['JJ']		those	: ['DT']
disconnected	: ['VBN']		developing	: ['VBG']
these	: ['DT']		engineering	: ['VB', 'NN']
profiles	: ['NNS']		situation	: ['NN', 'NNP']
sub-schema	: ['NN']		conferences	: ['NNS']
characteristics	: ['NNS']		them	: ['PRP']
cluster	: ['NN']		good	: ['NN', 'JJ']
non-material	: ['JJ']		technology	: ['NN']
different	: ['JJ', 'VBG']		develop	: ['VB', 'VBP']
author	: ['NN']		same	: ['JJ']
intelligently	: ['RB']		speech	: ['NN']
document	: ['NN']		events	: ['NNS']
status	: ['NN']		extended	: ['VBN']
www.dmoz.org	: ['JJ']		driven	: ['VBN']
fruit	: ['NN']		invariance	: ['NN']
relies	: ['VBZ']		minimize	: ['VB']
macro	: ['JJ', 'NN']		no	: ['DT']
without	: ['IN']		solve	: ['VB']
components	: ['NNS']		coordinate	: ['VB']
model	: ['NN', 'NNP', 'VB']		dimension	: ['NN', 'NNP']
researchers	: ['NNS']		transmitting	: ['VBG']
when	: ['WRB']		guided	: ['VBN', 'JJ']
recycled	: ['VBN']		aspect	: ['NN']
touch	: ['NN']		speed	: ['NN']
captured	: ['VBN']		secondly	: ['RB']
grounded	: ['JJ', 'VBN']		thinking	: ['NN', 'VBG']
empiricism	: ['NNP']		versa	: ['RB']
extensive	: ['JJ']		real	: ['JJ']
aspects	: ['NNS']		around	: ['IN', 'RB']
easily	: ['RB']		read	: ['VB']
decomposed	: ['VBN']		unveil	: ['VB']
early	: ['JJ', 'RB']		grid	: ['NNP', 'NN']
preference	: ['NN']		using	: ['VBG']
execution	: ['NN']		externalization	: ['VBN']
benefit	: ['NN']		output	: ['NN', 'VB']
grouping	: ['VBG']		satisfactory	: ['JJ']
learning	: ['VBG', 'NN']		competition	: ['NN']
moreover	: ['RB']		images	: ['NNS']
organizing	: ['VBG']		generates	: ['VBZ']
provided	: ['VBN']		dimensions	: ['NNS']
memories	: ['NNS']		recorded	: ['VBN']
pioneer	: ['NNP']		decomposition	: ['NN']
provides	: ['VBZ']		semantically	: ['RB', 'JJ']
scientific	: ['JJ', 'NNP']		business	: ['NN']
communicate	: ['VB']		1935	: ['CD']
ontology	: ['RB', 'NN', 'JJ']		on	: ['IN', 'NNP', 'RP']
slns	: ['NNS', 'NNP', 'NNPS']		stations	: ['NNS']
of	: ['IN']		industry	: ['NN']
discussed	: ['VBN', 'JJ']		develops	: ['VBZ']

greatly	: ['RB']		neighbor	: ['NN']
act	: ['VB', 'NN']		or	: ['CC']
road	: ['NN']		sketches	: ['NNS']
locally	: ['RB']		communication	: ['NN']
image	: ['NN']		determine	: ['VB']
einstein	: ['NNP']		logics	: ['RB']
area	: ['NN']		removing	: ['VBG']
there	: ['EX']		low	: ['JJ']
lot	: ['NN']		cultures	: ['NNS']
reduce	: ['VB']		regard	: ['VBP']
methodologies	: ['NNS']		technologies	: ['NNS']
promote	: ['VB']		with	: ['IN']
multi-space	: ['JJ']		polynemes	: ['VBZ']
vice	: ['RB']		behavior-based	: ['JJ']
define	: ['VB']		subclasses	: ['NNS']
beliefs	: ['NNS']		expect	: ['VB']
detailed	: ['JJ']		required	: ['VBN']
ai	: ['NNP']		certain	: ['JJ']
describe	: ['VB']		am	: ['VBP']
general	: ['NN', 'JJ']		imagination	: ['NN', 'NNP']
as	: ['IN', 'RB']		tasty	: ['JJ']
at	: ['IN']		lifetime	: ['NN']
statuses	: ['NNS']		mathematic	: ['JJ']
storage	: ['NN']		field	: ['NN']
spatial	: ['JJ']		you	: ['PRP']
immunity	: ['NN']		collaborative	: ['JJ']
students	: ['NNS']		symbol	: ['NN']
vertex	: ['NN']		includes	: ['VBZ']
a1	: ['JJ', 'NNP', 'CD']		a3	: ['CD', 'NNP']
important	: ['JJ']		a4	: ['NNP']
spouse	: ['NN']		building	: ['VBG', 'NN']
mass	: ['NN']		nelson	: ['NNP']
directory	: ['NNP']		nutrient	: ['JJ']
starting	: ['VBG', 'JJ']		represent	: ['VB', 'VBP']
all	: ['DT', 'PDT']		machine-understandable: ['JJ']
pointing	: ['VBG']		executing	: ['VBG']
dish	: ['NN']		follow	: ['VBP']
long-run	: ['NN']		research	: ['NN', 'NNP']
decisions	: ['NNS']		children	: ['NNP', 'NNS']
causes	: ['NNS']		equivalence	: ['NN']
removal	: ['NN']		tn	: ['NN']
to	: ['TO']		tm	: ['NN']
preserved	: ['VBN', 'RB']		nodes	: ['NNS', 'JJ']
co-computing	: ['JJ']		homepage	: ['NN']
activities	: ['NNS']		belonging	: ['VBG']
relieve	: ['VB']		dellink	: ['NNP']
very	: ['RB']		problem-solving	: ['JJ']
difference	: ['NN']		condition	: ['NN']
neurological	: ['JJ']		accompanying	: ['VBG']

issue	: ['NN']	globality	: ['RB']
list	: ['NN']	t0	: ['NNS']
intricately	: ['RB']	t.	: ['NN']
adjust	: ['VB']	small	: ['JJ']
biological	: ['JJ']	foundation	: ['NN']
tea	: ['NN']	past	: ['NN', 'JJ']
rate	: ['NN']	invention	: ['NN']
design	: ['NN', 'NNP', 'VB']	perspective	: ['NN']
pass	: ['VB']	further	: ['JJ', 'RBR']
situated	: ['VBN']	what	: ['WP', 'WDT']
nonlinear	: ['NN']	section	: ['NN']
overload	: ['NN']	self-adaptive	: ['JJ']
subspaces	: ['NNS']	scientists	: ['NNS']
public	: ['JJ']	contrast	: ['NN']
movement	: ['NN']	answers	: ['NNS']
operating	: ['VBG']	compressed	: ['VBN']
search	: ['VB', 'NN']	generalizing	: ['VBZ']
zoom-in	: ['JJ']	inspired	: ['VBN']
stretching	: ['VBG']	allows	: ['VBZ']
experience	: ['NN']	social	: ['JJ', 'NNP']
action	: ['NN']	inspires	: ['VBZ']
via	: ['IN']	family	: ['NN']
screens	: ['NNS']	texts	: ['NNS']
analyzing	: ['VBG', 'NN']	trained	: ['VBZ']
commonalities	: ['NNS']	establish	: ['VB']
detecting	: ['VBG']	select	: ['VB']
literary	: ['JJ']	takes	: ['VBZ']
uniformity	: ['NN']	probabilities	: ['NNS']
destination	: ['NN']	two	: ['CD']
taken	: ['VBN']	more	: ['RBR', 'JJR']
knows	: ['VBZ']	initiated	: ['VBD']
constructs	: ['VBZ']	telephone	: ['NN']
controlling	: ['VBG']	surface	: ['NN']
zhuge	: ['NNP']	particular	: ['JJ']
known	: ['VBN', 'JJ']	coincidently	: ['RB']
evolves	: ['VBZ', 'NNS']	self-organize	: ['RB', 'VB']
resources	: ['NNS', 'NNPS', 'NNP']	evolved	: ['VBN', 'JJ']
learn	: ['VB', 'VBP']	strategies	: ['NNS']
specialized	: ['VBN']	history	: ['NN', 'VB']
challenging	: ['VBG']	share	: ['VB']
accept	: ['VB']	states	: ['NNS']
minimum	: ['JJ']	arise	: ['VBP', 'VB']
species	: ['NNS']	huge	: ['JJ']
respective	: ['JJ']	goal	: ['NN']
rather	: ['RB']	acts	: ['NNS']
att	: ['NN']	maps	: ['NNS']
influences	: ['NNS', 'VBZ']	communicating	: ['NN', 'VBG']
space?artifact	: ['JJ']	derived	: ['VBN']
mapping	: ['VBG', 'NNP', 'NN', 'VBZ']	questioning	: ['NN']

```
reflect          : ['VB', 'VBP']                    tries            : ['VBZ']
derives          : ['VBZ']                           short            : ['JJ']
anytime          : ['RB']                            co-exist         : ['VB']
specifying       : ['VBG']                           fundamental      : ['JJ']
retrieval        : ['NN']                            help             : ['NN', 'VB']
hierarchy        : ['NN']                            essence          : ['NN']
hypertext        : ['NNP', 'NN']                     pronomes         : ['NNS']
held             : ['VBN']                           paper            : ['NN']
through          : ['IN', 'RP']                      filters          : ['NNS']
existence        : ['NN']                            its              : ['PRP$']
developer        : ['NN']                            24               : ['CD']
25               : ['CD']                            style            : ['NN']
27               : ['CD']                            20               : ['CD']
21               : ['CD']                            22               : ['CD']
23               : ['CD']                            28               : ['CD']
29               : ['CD']                            actually         : ['RB']
detected         : ['VBN']                           systems          : ['NNS', 'NNPS']
alter            : ['VB']                            gaze-centered    : ['JJ']
pursue           : ['VB']                            incompleteness   : ['NNS']
seeking          : ['VBG']                           food             : ['NN']
reflected        : ['VBN']                           framework        : ['NN', 'NNP']
communities      : ['NNS']                           instructions     : ['NNS']
mystery          : ['NN']                            channels         : ['NNS']
philosophical    : ['JJ']                            micro            : ['JJ']
-lsb-            : ['VBZ', 'NNP', 'VBG', 'CD', 'JJ', 'NNS', 'NN']found                  : ['VBN']
friendship       : ['NN']                            heavy            : ['JJ']
mental           : ['JJ', 'NNP']                     weight           : ['NN']
generation       : ['NN']                            energy           : ['NN', 'NNP']
hard             : ['JJ']                            wernicke         : ['NNP']
idea             : ['NN']                            connect          : ['VB', 'VBP']
loops            : ['NNS']                           operation        : ['NN', 'JJ']
beyond           : ['IN']                            event            : ['NN']
try              : ['VBP']                           psychology       : ['NN']
discrete         : ['JJ']                            unnatural        : ['JJ']
since            : ['IN']                            denotes          : ['VBZ']
health           : ['NN', 'NNP']                     hill             : ['NN']
denoted          : ['NN', 'VBN']                     evaluation       : ['NN']
semiotic         : ['JJ']                            like             : ['IN', 'JJ', 'VB']
reason           : ['VB', 'NNP', 'NN']               base             : ['NN', 'NNP']
imagine          : ['VB']                            put              : ['VB']
beginning        : ['NN']                            generate         : ['VB', 'VBP']
definition       : ['NN']                            owners           : ['NNS']
computers        : ['NNS']                            co-location      : ['NN']
edges            : ['NNS']                            consequence      : ['NN']
major            : ['JJ']                            unhealthy        : ['JJ']
probability      : ['NN']                            feel             : ['VB', 'NN']
relate           : ['VBP']                           number           : ['NN', 'NNP']
linking          : ['VBG', 'NNS', 'VB', 'NN', 'JJ', 'VBD']instances              : ['NNS']
1874             : ['CD']                            neglects         : ['VBZ']
```

story	: ['NN']		temperature	: ['NN']
divorce	: ['NN']		interact	: ['NN', 'VB', 'VBN', 'VBP']
paranomes	: ['NNS']		construct	: ['VB']
regulation	: ['NN']		assumption	: ['NN']
store	: ['VB']		schema	: ['NN']
implements	: ['VBZ']		muscles	: ['NNS']
relationship	: ['NN']		newell	: ['NNP']
part	: ['NN']		pronome	: ['NN']
authors	: ['NNS']		translation	: ['NN']
center	: ['NN']		kind	: ['NN']
farming	: ['NN']		aims	: ['VBZ']
recording	: ['VBG']		determined	: ['VBN']
contrary	: ['NN']		next-generation	: ['JJ']
toward	: ['IN']		treated	: ['VBN']
interactive	: ['JJ', 'VBZ', 'NNP']		motivation	: ['NN']
5-tuple	: ['JJ']		empiricists	: ['NNS']
sentences	: ['NNS']		organs	: ['NNS']
orders	: ['NNS']		paths	: ['NNS']
built	: ['VBN']		extracted	: ['VBN']
recognizing	: ['VBG']		internal	: ['JJ']
interconnection	: ['NN']		analogy	: ['NN']
peer-to-peer	: ['JJ', 'NN']		play	: ['VBP', 'VB']
added	: ['VBN']		warnings	: ['NNS']
programmers	: ['NNS']		measures	: ['NNS']
reach	: ['VB']		react	: ['VBP']
most	: ['JJS', 'RBS']		75	: ['CD']
74	: ['CD', 'NNP']		experiences	: ['NNS']
72	: ['CD']		significant	: ['JJ']
comparisons	: ['NNS']		services	: ['NNS', 'NNP']
probabilistic	: ['JJ']		79	: ['CD']
78	: ['CD']		constructed	: ['VBN']
windows	: ['NNS']		sometimes	: ['RB']
cover	: ['VBP', 'NN']		traditional	: ['JJ']
bodies	: ['NNS']		predictable	: ['JJ']
physics	: ['NN']		phenomenon	: ['NN']
doctors	: ['NNS']		page	: ['NN']
converge	: ['VB']		relation	: ['NN']
find	: ['VB']		indicator	: ['NN']
parameters	: ['NNS']		justice	: ['NN']
less	: ['RBR', 'JJR']		distributed	: ['VBN']
being	: ['NN']		flights	: ['NNS']
eruptions	: ['NNS']		his	: ['PRP$']
triangle	: ['NN']		invoke	: ['VB']
express	: ['VB']		trees	: ['NNS']
shared	: ['VBN']		during	: ['IN']
enemy	: ['NN']		showed	: ['VBD']
knowledge-based	: ['JJ']		stored	: ['VBN']
common	: ['JJ']		logistic	: ['JJ']
activity	: ['NN']		sustainable	: ['JJ']

```
precaution        : ['NN']                           locating          : ['VBG']
consciously       : ['RB']                           set               : ['NN', 'VBN']
art               : ['NN']                           text-text         : ['NN']
intelligence      : ['NN']                           uses              : ['VBZ']
culture           : ['VB', 'NN']                     see               : ['VB']
individual        : ['NN', 'JJ']                     are               : ['VBP']
close             : ['RB', 'JJ']                     -rsb-             : ['NNP', 'NNS', 'CD', 'JJ', 'NN', 'VBZ']
turing            : ['NNP', 'NN', 'VBG']             visualize         : ['VB']
probable          : ['JJ']                           expert            : ['NN']
various           : ['JJ']                           probably          : ['RB']
conditions        : ['NNS']                          available         : ['JJ']
creating          : ['VBG']                          unconscious       : ['JJ']
missing           : ['VBG']                          sold              : ['VBN']
attention         : ['NN']                           general-purpose   : ['JJ']
coffee            : ['NN']                           sub-healthy       : ['JJ']
distinguish       : ['VB']                           both              : ['DT']
collaborators     : ['NNS']                          enables           : ['VBZ']
hyperlink         : ['NN', 'NNP', 'VBZ']             influential       : ['JJ']
sensitive         : ['JJ']                           context           : ['NN']
long-term         : ['JJ', 'VB']                     whole             : ['JJ', 'NN']
load              : ['NN']                           volcanic          : ['JJ']
point             : ['NN']                           reasons           : ['VBZ', 'NNS']
community         : ['NN', 'NNP']                    regulated         : ['VBN']
adaptation        : ['NN']                           openness          : ['VB']
described         : ['VBD', 'VBN']                   raise             : ['VB']
create            : ['VB', 'VBP']                    outstanding       : ['JJ']
due               : ['JJ']                           earthquake        : ['NN']
whom              : ['WP']                           maintenance       : ['NN']
engelbart         : ['NNP']                          pj                : ['NN']
pi                : ['NN']                           treatment         : ['NN']
generating        : ['VBG']                          self-organized    : ['JJ', 'VBN']
great             : ['JJ']                           modelling         : ['NN']
gap               : ['NN']                           adaptable         : ['JJ']
understand        : ['VB']                           demand            : ['NN']
assigning         : ['VBG']                          uncertain         : ['JJ']
evaluated         : ['VBN']                          33                : ['CD']
while             : ['IN', 'NN']                     evaluating        : ['VBG']
leaning           : ['VBG']                          guide             : ['NNP', 'NN']
loop              : ['NN']                           engineers         : ['NNS']
larger            : ['JJR']                          itself            : ['PRP']
rif               : ['NNP']                           regulate          : ['VB']
belong            : ['VB', 'VBP']                    externalize       : ['VB']
rules             : ['NNS', 'VBZ', 'NNP']            virtually         : ['RB']
widely            : ['RB']                           peoples           : ['NNS']
composition       : ['NN']                           higher            : ['JJR']
development       : ['NN']                           used              : ['VBN', 'VBD']
cyber-mental      : ['JJ']                           yesterday         : ['NN']
flows             : ['NNS', 'VBZ']                   levels            : ['NNS']
moving            : ['VB']                           user              : ['NN']
```

stack	: ['NNP']		recent	: ['JJ']	
lower	: ['JJR']		supersede	: ['JJ']	
database	: ['NN']		human-centered	: ['VBZ', 'JJ']	
analysis	: ['NNP', 'NN']		obviously	: ['RB']	
person	: ['NN']		regulating	: ['VBG']	
traffic	: ['NN', 'NNP']		distances	: ['NNS']	
abilities	: ['NNS']		questions	: ['NNS']	
world	: ['NN', 'NNP']		useful	: ['JJ']	
tables	: ['NNS']		waste	: ['NN']	
cup	: ['NN']		immigrating	: ['VBG']	
causal-predictive	: ['JJ']		signals	: ['NNS']	
source	: ['NN']		hyperlinks	: ['NNS']	
parents	: ['NNS']		location	: ['NN']	
theorem	: ['NN']		relevance	: ['NN']	
tea-cultural	: ['JJ']		transformation	: ['NN']	
build	: ['VB']		...	: [':']	
trigg	: ['NNP']		big	: ['JJ']	
showing	: ['VBG']		unlimited	: ['JJ']	
formal	: ['JJ']		follows	: ['VBZ']	
language-games	: ['NNS']		consensus	: ['NN']	
collect	: ['VB']		individuals	: ['NNS']	
indication	: ['NN']		terminology	: ['NN']	
mathematical	: ['JJ']		sketch	: ['NN']	
ecology	: ['NNP']		methods	: ['NNS']	
b.	: ['NNP']		creation	: ['NN']	
some	: ['DT']		back	: ['RB', 'RP']	
b4	: ['NNP']		one-way	: ['VBG']	
economic	: ['JJ']		instantiating	: ['VBG']	
accelerate	: ['VB']		b2	: ['NN']	
b3	: ['NNP']		scale	: ['NN']	
decision	: ['NN']		behave	: ['VB']	
innovation	: ['NN']		augmenting	: ['VBG']	
either	: ['DT']		inserting	: ['VBG']	
be	: ['VB']		run	: ['NN']	
bc	: ['NNP']		processing	: ['NN', 'VBG']	
use	: ['NN', 'VB', 'VBP']		subconscious	: ['NNP']	
viewpoints	: ['NNS']		become	: ['VB']	
from	: ['IN']		by	: ['IN']	
77	: ['CD']		anything	: ['NN']	
76	: ['CD', 'NNP']		coexist	: ['NN', 'JJ']	
tracing	: ['VBG']		simulation	: ['NNP']	
range	: ['NN']		together	: ['RB']	
73	: ['CD']		plan	: ['VB']	
computational	: ['JJ']		71	: ['CD']	
into	: ['IN']		within	: ['IN']	
appropriate	: ['JJ']		frames	: ['NNP']	
clustering	: ['VBG']		statistics	: ['NNS']	
straight-line	: ['JJ']		innate	: ['JJ']	
measured	: ['VBN']		question	: ['NN']	

```
long               : ['JJ']                        thirdly              : ['RB']
manufacture        : ['NN']                        behaving             : ['VBG']
criteria           : ['NNS']                       link                 : ['VB', 'NN', 'VBP', 'NNP']
externalizing      : ['VBG']                       -lrb-                : ['-LRB-']
line               : ['NNP', 'NN']                 deployed             : ['VBN']
directed           : ['JJ']                        characteristic       : ['NN']
transmits          : ['VBZ']                       up                   : ['RP', 'RB']
us                 : ['PRP']                       mobile               : ['JJ']
exploration        : ['NNP']                       continuously         : ['RB']
autonomous         : ['JJ', 'VB']                  similar              : ['JJ']
medical            : ['JJ']                         defined              : ['VBN']
influence          : ['VB', 'NN', 'VBP', 'NNP']    single               : ['JJ']
diverse            : ['JJ']                         behavior             : ['NN']
tends              : ['VBZ']                        composing            : ['VBG', 'VBD']
application        : ['NN']                         reflections          : ['NNS']
explaining         : ['VBG']                        draw                 : ['VB']
co-wave            : ['VBP']                        users                : ['NNS', 'NNP']
problems           : ['NNS']                        robots               : ['NNS']
regulations        : ['NNS']                        generated            : ['VBN']
fertilizer         : ['NN']                         structure            : ['NN']
independently      : ['RB']                         implies              : ['VBZ']
cooker             : ['NN']                         zooming              : ['NN', 'VBG', 'VBZ']
age                : ['VBP', 'NN']                  vehicles             : ['NNS', 'NNPS']
socrates           : ['NNP']                        far                  : ['RB']
requires           : ['VBZ']                        having               : ['VBG']
web/internet       : ['NN', 'NNP', 'JJ']           once                 : ['IN']
partial            : ['JJ']                         issued               : ['VBN']
results            : ['NNS']                        existing             : ['VBG', 'JJ']
logic-based        : ['JJ']                         classic              : ['JJ']
go                 : ['VB']                         query                : ['JJ', 'RB', 'NN']
issues             : ['NNS']                        compose              : ['VB']
vannevar           : ['NNP']                        concerned            : ['JJ', 'VBD', 'VBN']
languages          : ['NNS']                        helps                : ['VBZ']
visualizing        : ['VBG']                        worldviews           : ['NNS']
include            : ['VBP', 'VB']                  pre-designed         : ['JJ']
indicating         : ['VBG']                        wave                 : ['VB']
end-of-use         : ['JJ']                         telling              : ['VBG']
drinking           : ['VBG']                        categories           : ['NNS']
entire             : ['JJ']                         experiencing         : ['VBG']
notes              : ['NNS']                        repository           : ['NN']
assignments        : ['NNS']                        reasoning/navigation: ['NN']
deleting           : ['VBG']                        versioning           : ['VBG']
logistics          : ['NNS']                        limitations          : ['NNS']
odp                : ['NNP']                         imply                : ['VB']
video              : ['NN']                         life-time            : ['NN']
optimize           : ['VB']                         plays                : ['VBZ']
paintings          : ['NNS']                        giving               : ['VBG']
networks           : ['NNS']                        access               : ['NN', 'VB']
experiment         : ['NN']                         collins              : ['NNP']
```

focuses	: ['VBZ']		fertilization	: ['NN']
respectively	: ['RB']		delivering	: ['JJ']
65	: ['CD']		believed	: ['VBD']
explore	: ['VBZ', 'VB']		objects	: ['NNS']
cyber-physical	: ['JJ', 'NNP']		separation	: ['NN']
others	: ['NNS']		safer	: ['JJR']
invented	: ['VBN']		implicit	: ['JJ']
suggest	: ['VBP']		39	: ['CD']
38	: ['CD']		receive	: ['VB']
involved	: ['VBN']		31	: ['CD']
30	: ['CD']		37	: ['CD']
36	: ['CD']		35	: ['CD']
34	: ['CD']		rdf	: ['NNP']
products	: ['NNS']		opinion	: ['NN']
implement	: ['VB']		self-similarity	: ['NN']
decentralized	: ['JJ']		apple	: ['NN']
scales	: ['NNS']		manage	: ['VB']
collaborating	: ['VBG']		motor	: ['NN']
tools	: ['NNS']		fed	: ['VBN']
refers	: ['VBZ']		metaphor	: ['NN']
facets	: ['NNS']		consumption	: ['NN']
mirrors	: ['NNS']		few	: ['JJ']
depicted	: ['VBN']		camera	: ['NN']
attribute	: ['NN']		546	: ['NNP']
themselves	: ['PRP']		reflects	: ['VBZ']
started	: ['VBN']		becomes	: ['VBZ']
about	: ['IN', 'RB']		cooperate	: ['VB', 'VBP']
carrying	: ['VBG']		popper	: ['NNP']
central	: ['JJ']		account	: ['NN']
defines	: ['VBZ']		integrating	: ['VBG']
this	: ['DT']		challenge	: ['NN']
reproduce	: ['VB']		obvious	: ['JJ']
industrial	: ['JJ']		fulfill	: ['VB']
proof	: ['NN']		control	: ['NN', 'VBP', 'VB']
links	: ['NNS', 'VBZ', 'NN']		process	: ['VB', 'NN']
favorite	: ['JJ']		purposes	: ['NNS']
pieces	: ['NNS']		high	: ['JJ']
effectively	: ['RB']		reserves	: ['VBZ']
dictation	: ['NN']		expandable	: ['JJ']
schemas	: ['NNS']		syndrome	: ['NN']
six	: ['CD']		carries	: ['VBZ']
regions	: ['NNS']		located	: ['VBN']
service-oriented	: ['NNP']		unites	: ['VBZ']
intelligent	: ['JJ']		zooming-in	: ['JJ', 'NNP']
co-evolve	: ['JJ', 'VB', 'VBP']		buildings	: ['NNS']
g?del	: ['NNP']		philosophy	: ['NN']
collection	: ['NN']		reasoned	: ['VBD']
multiplication	: ['NN']		efficiently	: ['VB', 'RB']
realized	: ['VBN']		introduced	: ['VBD', 'VBN']

```
light              : ['JJ', 'NN']          wittgenstein       : ['NNP']
redundant          : ['JJ']                object-oriented    : ['JJ', 'NNP']
metaphors          : ['NNS']               allow              : ['VBP']
berger             : ['NNP']               competing          : ['VBG']
interpreted        : ['VBN']               symbols            : ['NNS']
including          : ['VBG']               referencing        : ['NN']
agricultural       : ['JJ']                facilitates        : ['VBZ']
industries         : ['NNS']               write              : ['VB']
multi-dimensional  : ['JJ']                micro-environment  : ['NN']
temporal           : ['JJ']                b1                 : ['JJ']
pop-up             : ['JJ']                latitude           : ['NN']
clusters           : ['NNS']               defining           : ['VBG']
archival           : ['NN']                richness           : ['VB']
material           : ['NN', 'JJ']          front              : ['NN']
realize            : ['VB']                emotion            : ['NN']
worlds             : ['NNS']               establishment      : ['NN']
accompanies        : ['VBZ']               transmitted        : ['VBN']
truth              : ['NN']                traces             : ['NNS']
constraints        : ['NNS']               activate           : ['VB']
inputs             : ['VBZ']               pursuits           : ['NNS']
related            : ['JJ', 'VBN']         constitute         : ['VBP']
society            : ['NN', 'NNP']         88                 : ['CD']
89                 : ['CD']                static             : ['JJ']
variety            : ['NN']                olderthan          : ['NN']
measure            : ['NN']                82                 : ['CD']
83                 : ['CD']                programmer         : ['NN']
81                 : ['CD']                agriculture        : ['NN']
87                 : ['CD']                special            : ['JJ']
out                : ['RP']                category           : ['NN']
memex              : ['NN', 'NNS']         behaviours         : ['NNS']
maximized          : ['JJ']                autopilot          : ['VB']
adaptive           : ['JJ']                cause              : ['NN']
red                : ['JJ']                high-performance   : ['JJ']
workflow           : ['NN']                retrieved          : ['VBN']
maintains          : ['VBZ']               1984               : ['CD']
completely         : ['RB']                cyber-physiological : ['JJ']
interaction        : ['NN', 'NNP', 'JJ', 'VBP', 'NNS', 'VBN']updating           : ['VBG']
sustainability     : ['NN']                explanations       : ['NNS']
could              : ['MD']                ask                : ['VB']
keep               : ['VB', 'VBP']         length             : ['NN']
explored           : ['VBD', 'VBN']        restaurants        : ['NNS']
facilitate         : ['VB']                reflexive          : ['VBZ', 'NN']
scene              : ['NN']                representations    : ['NNS']
owner              : ['NN']                reached            : ['VBN']
precisely          : ['RB']                quality            : ['NN']
ancient            : ['JJ']                publication        : ['NN']
privacy            : ['NN']                ordering           : ['VBG']
unknown            : ['JJ']                system             : ['NN', 'NNP']
relations          : ['NNS', 'NNP']        priority           : ['NN']
```

```
their            : ['PRP$']                    cross-referring   : ['NN']
lifetimes        : ['NNS']                     final             : ['JJ']
symbiosis        : ['JJ', 'NNS']               interests         : ['NNS']
accompany        : ['VB']                      explanation       : ['NN']
cyc              : ['NNP']                     reflecting        : ['VBG', 'VBZ']
simulate         : ['VB']                      manipulation      : ['NN']
blind            : ['JJ']                      observed          : ['JJ', 'VBD']
distinguishes    : ['VBZ']                     richer            : ['JJR']
patients         : ['NNS']                     providing         : ['VBG']
sculpture        : ['NN']                      distinguished     : ['JJ', 'VBN']
descriptions     : ['NNS']                     collecting        : ['VBG']
viewer           : ['NN']                      sincerity         : ['NN']
encyclopedias    : ['NNS']                     need              : ['NN', 'VB', 'VBP']
linked           : ['VBN']                     viewed            : ['VBN']
acceleration     : ['NN']                      documents         : ['NNS']
mappings         : ['NNS']                     studying          : ['VBG']
able             : ['JJ']                      gravity           : ['NN']
mechanism        : ['NN']                      emerged           : ['VBN']
instance         : ['NN']                      relatives         : ['NNS']
concerns         : ['VBZ', 'NNS']              best              : ['JJS']
grounding        : ['NN']                      pursues           : ['VBZ']
realizes         : ['VBZ']                     worldwide         : ['JJ']
unless           : ['IN']                      collaboration     : ['NN']
who              : ['WP']                      intentions        : ['NNS']
connected        : ['VBN']                     definitions       : ['NNS']
on-demand        : ['JJ', 'NN']                intrinsic         : ['JJ']
why              : ['VBG', 'VBZ', 'WRB']       consequences      : ['NNS']
gather           : ['VB']                      request           : ['NN']
databases        : ['NNS']                     painting          : ['NN']
50               : ['CD']                      emerging          : ['VBG', 'VBZ', 'VB']
selection        : ['NN']                      text              : ['NN']
supported        : ['VBD']                     visualized        : ['VBN']
bring            : ['VB']                       well-being        : ['NN']
high-level       : ['JJ']                      minsky            : ['NNP']
partners         : ['NNS']                     holistic          : ['JJ']
based            : ['VBN']                     knowledge         : ['NN', 'NNP', 'NNS']
should           : ['MD']                      terminal          : ['NN']
bases            : ['NNS']                     inherited         : ['VBN']
fuel             : ['NN']                       local             : ['JJ']
achieve          : ['VB']                      photographs       : ['NNS']
means            : ['NN', 'VBZ']               lobe              : ['NN']
displayed        : ['VBN']                     overall           : ['JJ']
commonality      : ['NN']                      words             : ['NNS']
coordinating     : ['VBZ', 'VBG']              areas             : ['NNS']
gray             : ['NNP']                      processes         : ['NNS', 'VBZ']
organ            : ['NN']                       brain             : ['NN', 'NNP']
numerous         : ['JJ']                      influenced        : ['VBN']
contain          : ['VB']                      fixed             : ['VBN']
view             : ['VBP', 'NN', 'VB']         knowing           : ['VBG']
```

requirement	: ['NN']	statistical	: ['JJ']
e.g.	: ['NNP', 'VBG', 'UH']	humans	: ['VB', 'NNS']
operates	: ['VBZ']	computer	: ['NN']
enhanced	: ['VBN']	operated	: ['VBN']
interacting	: ['VBG']	berners-lee	: ['NNP']
pattern	: ['NN']	-rcb-	: ['-RRB-']
purses	: ['VBD']	tend	: ['VBP']
favor	: ['VBP']	state	: ['NN']
routing	: ['VBG', 'NNS']	closed	: ['JJ', 'VBN', 'VBD']
progress	: ['NN']	interfaces	: ['NNS']
ends	: ['VBZ']	ability	: ['NN', 'VB']
bridges	: ['NNS']	importance	: ['NN']
efficiency	: ['NN']	summarization	: ['NN']
key	: ['JJ', 'NN']	interchangeable	: ['JJ']
e-learning	: ['JJ']	distribution	: ['NN']
undetermined	: ['JJ']	p2p	: ['NNP', 'NN']
limits	: ['VBZ']	fused	: ['VBN']
taking	: ['VBG']	minds	: ['NNS', 'NNP']
etc	: ['FW']	attributes	: ['NNS']
otherwise	: ['RB']	ci	: ['NN']
relevant	: ['JJ', 'VB']	agents	: ['NNS']
576	: ['CD']	environments	: ['NNS']
interface	: ['NN']	modeling	: ['NN', 'NNP', 'VBN', 'VBG']
table	: ['NN']	i.e.	: ['FW']
addition	: ['NN']	taste	: ['NN']
indicators	: ['NNS']	topology	: ['RB']
adapting	: ['VBG']	senses	: ['VBZ', 'NNS']
corresponding	: ['JJ']	route	: ['VB']
airplanes	: ['NNS']	ensuring	: ['VBG']
sensed	: ['VBN', 'JJ']	mail	: ['NN']
constructing	: ['VBG']	an	: ['DT']
present	: ['NN', 'JJ']	input	: ['NN']
k-lines	: ['NNS']	harder	: ['JJR']
value	: ['NN']	2010	: ['CD']
will	: ['MD']	luckmann	: ['NNP']
layer	: ['NN']	vn	: ['NN']
respected	: ['VBD']	micronemes	: ['VBZ']
capture	: ['VB']	education	: ['VB']
privileges	: ['NNS']	cross	: ['NN', 'VBP']
parts	: ['NNS']	film	: ['NN']
largest	: ['JJS']	units	: ['NNS']
practice	: ['NNP']	http	: ['NNP']
conceived	: ['VBD']	effect	: ['NN']
v1	: ['NNS']	student	: ['NN']
polymorphism	: ['NN']	reflection	: ['NN']
neural	: ['NN']	modeled	: ['VBN', 'VBD']
well	: ['RB']	thought	: ['NN', 'VBD']
patterns	: ['NNS']	sets	: ['NNS']
firstly	: ['RB']	position	: ['NN']

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audio             : ['NN']                sensing           : ['NN', 'VBG']
meet              : ['VB']                discord           : ['NN']
accurate          : ['JJ']                obtain            : ['VB']
small-world       : ['JJ']                sources           : ['NNS']
underlying        : ['VBG']               40                : ['CD']
coordination      : ['NN']                web               : ['NNP', 'NN']
rapid             : ['JJ']                large-scale       : ['JJ', 'VBD']
recommending      : ['VBG']               simple            : ['JJ']
add               : ['VB']                extends           : ['VBZ']
combing           : ['VBG']               propositions      : ['NNS']
self-contained    : ['JJ']                increased         : ['VBN']
know              : ['VBP', 'VB']         facial            : ['JJ']
immediately       : ['RB']                necessary         : ['JJ']
helpful           : ['JJ']                lost              : ['VBN']
sizes             : ['NNS']               leaves            : ['VBZ']
works             : ['NNS']               soft              : ['JJ']
replacement       : ['NN']                accessible        : ['JJ']
because           : ['IN']                sequence          : ['NN']
repositories      : ['NNS']               phenomena         : ['NNS', 'NN']
searching         : ['VBG']               library           : ['NN']
ideals            : ['NNS']               superclass        : ['NNS']
recommendation    : ['NN']                home              : ['NN']
vsm               : ['NNP']               recognition       : ['NNP']
lead              : ['VB']                does              : ['VBZ']
chains            : ['NNS']               demonstrated      : ['VBN']
locate            : ['VB']                selecting         : ['VBG', 'VB']
expansion         : ['NN']                self-organization : ['NN', 'VB']
pressure          : ['NN']                although          : ['IN']
instinct          : ['NN']                behaviors         : ['NNS', 'JJ']
stage             : ['NN']                exhibit           : ['VB']
eco-grid          : ['JJ', 'NN']          carried           : ['VBN']
extension         : ['NN']                universe          : ['NN']
introduces        : ['VBZ']               dependence        : ['NN']
dependency        : ['NN']                cancelation       : ['NN']
a2                : ['NNP']               co-experiencing   : ['VBG', 'NN', 'NNP']
multi-disciplinary: ['JJ']                software          : ['NN']
owl               : ['NNP']               own               : ['JJ']
previously        : ['RB']                euclidean-distance: ['NN']
functional        : ['JJ', 'CD']          roads             : ['NNS']
1632              : ['CD']                networking        : ['NN']
elastic           : ['JJ']                artifacts         : ['NNP', 'NNS', 'VBG']
phrases           : ['NNS']               soil              : ['NN']
synthesizes       : ['VBZ']               spread            : ['NN']
trigger           : ['VBP']               naturally         : ['RB']
function          : ['NN']                but               : ['CC']
subjective        : ['JJ']                collected         : ['VBN']
construction      : ['NN']                goals             : ['NNS']
automated         : ['VBN']               editing           : ['NNP']
versatile         : ['NN', 'JJ']          he                : ['PRP']
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also             : ['RB']              made        : ['VBN']
places           : ['NNS']             chained     : ['VBN']
whether          : ['IN']              ecosystem   : ['NN']
cells            : ['NNS']             record      : ['VB']
intangible       : ['JJ']              limit       : ['VBP']
problem          : ['NN']              friendof    : ['NN']
display          : ['NN']              farthest    : ['JJS']
recognize        : ['VB']              universal   : ['JJ']
contribute       : ['VBP']             mcm         : ['NNS']
denote           : ['VBP', 'NN']       separating  : ['VBG']
recommendations  : ['NNS']             kant        : ['NNP']
functions        : ['NNS', 'NNP']      48          : ['CD']
contest          : ['NN']              46          : ['CD']
86               : ['CD']              44          : ['CD']
45               : ['CD']              42          : ['CD']
43               : ['CD']              virtual     : ['JJ']
41               : ['CD']              other       : ['JJ']
compares         : ['VBZ']             84          : ['CD']
85               : ['CD']              kinds       : ['NNS']
living           : ['JJ', 'VBG']       ecological  : ['JJ']
pathways         : ['NNS']             ranks       : ['NNS']
rule             : ['NN']              portion     : ['NN']
compete          : ['VB']              rural       : ['JJ']
479              : ['NNP']             indirectly  : ['RB']
```