COMET

Commonsense Transformers for Automatic Knowledge Graph Construction

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generative language models **to** *generative knowledge graphs*

Training with **ATOMIC**

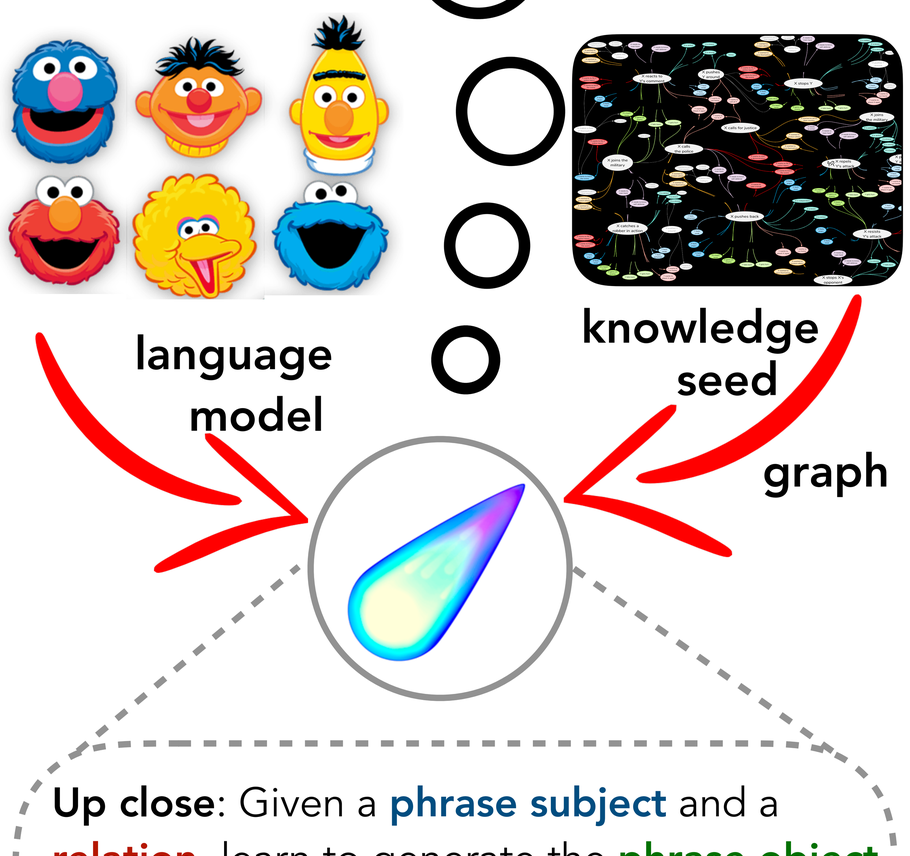
% of novel tuples	% of novel tuple endings	% of generated tuples rated correct by humans	% of gold test set tuples rated correct by humans
100	9.7	**77.5**	86.2

Subject	Relation	Generated Object
X meets Y's eyes	xAttr	intense
X eats red meat	xEffect	gets fat
X makes crafts	xEffect	gets dirty
X pisses on Y's bonfire	oEffect	gets burned
X takes Y's head off	oEffect	bleeds
X spoils somebody	xIntent	to be mean
X explains Y's reasons	xNeed	to know Y
X eats pancakes	xReact	satisfied
X gets all the supplies	xWant	to make a list
X murders Y's wife	xWant	to hide the body
X offers Y a position	oWant	to accept the job

Training with **ConceptNet**

% of novel tuples	% of novel tuple endings	% of generated tuples rated correct by humans	% of gold test set tuples rated correct by humans
59.3	3.8	**91.7**	95.0

Subject	Relation	Generated Object
piece	PartOf	machine
happiness	IsA	feel
puzzle	AtLocation	your mind
doctor	CapableOf	save life
bird bone	HasProperty	fragile
yard	UsedFor	play game
get pay	HasPrerequisite	work
play game	HasPrerequisite	have game
live	HasLastSubEvent	die
sit down	MotivatedByGoal	you be tire
all paper	ReceivesAction	recycle
chair	MadeOf	wood



Train your and Meet us!

Code: atcbosselut.github.io

@ABosselut

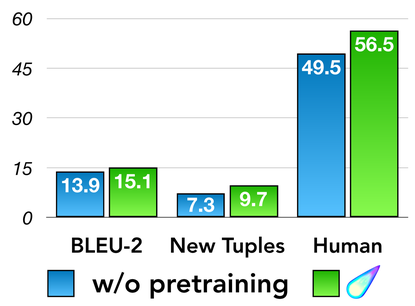
Demo:

Fun with **Composition**

Subject	Relation	Generated Object
man with axe	CapableOf	chop firewood
man with axe **and a mask**	CapableOf	cut down tree
man with axe **and a mask in a house**	CapableOf	murder

Knowledge Transfer from Language

ATOMIC

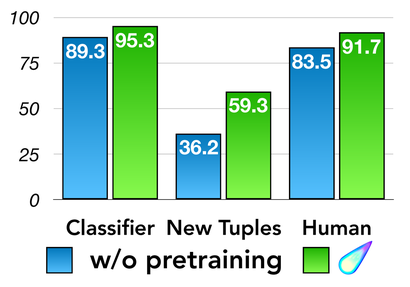
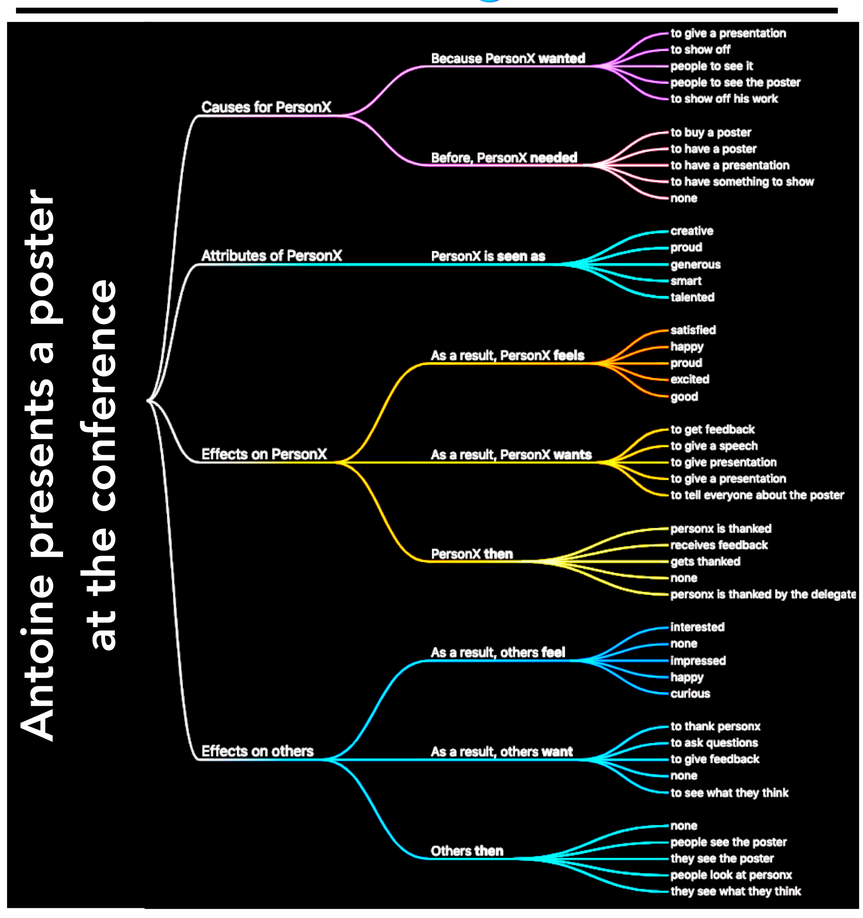


Higher quality scores from automatic metrics and humans

More generated tuples not in training set

Source	Subject	Relation	Object
Concept Net	mango	UsedFor	salsa
	mango	IsA	fruit
No PT	mango	IsA	spice

ConceptNet



Play with the Demo!