DSC 234 Inside the Machine: AI Literacy Lesson Plan Feb 9 - 12, 2026

Topic: What is a Semantic Network, and what is/was its role in developing what we now call "large language models" or generative AI and/or natural language processing.

Materials Needed:

Checklist and Other Guidelines for "What to Include in your Project Plan/Proposal"

Datasets dubbed "Fun Libs" by researchers who were trying to train an AI to create humor via a "Mad Libs"-type exercise (.json files)

Handout of "Fun Libs" story with fill-ins and a word bank. For each word category (of which there are 8) there are 100 words for random selection

D20, D6 (or online versions will work)

Learning Outcomes:

The student will gain understanding and experience with "Large Language Models" and how they process information, in the context of an actual course assignment that the LLM will assist them with.

The student will discuss and consider ethical issues and other programming limitations associated with training data for Large Language Models. The student will discuss and consider issues concerning AI and humor.

The student will test an AI's ability to solve a problem in the context of a guessing game with a given riddle.

Background Information and Definitions

A **semantic network** is a way of representing knowledge as a graph of concepts and their relationships. Think of it like a web where we have:

- **Nodes** represent concepts (words, ideas, objects)
- **Edges** (connections) represent relationships between concepts

For example, "dog" might connect to "animal" (is-a relationship), "bark" (action), "pet" (category), and "furry" (attribute).

How Semantic Networks Relate to Fun Libs Humor

When an AI selects words to make Fun Libs funny, it's essentially navigating this semantic network to find words that create **semantic incongruity** - the clash between what's expected and what appears.

Key Concepts:

1. Semantic Distance

- Words close together in the network are semantically similar ("cat" and "dog")
- Words far apart create surprise and humor ("grandmother" and "exorcises")
- The farther apart, often the funnier - but there's a sweet spot

2. Context Violation In a narrative, where there is social, cultural, or collectively understood context and we see a word appear that violates that context:

These create humor because they're *semantically distant* from a given story context. The network might select them based on the following:

- **Expected context**: innocent, childlike, simple
- **Inserted words**: scary, complicated, dark, adult themes
- **Result**: Comic incongruity

3. Schema Disruption A "schema" is a mental framework for understanding situations. Your brain has a schema for "grandmother's house" that includes:

- Warmth, safety, things that one associates with "grandma"
- NOT: trauma, insecure or unsafe things, unpleasantness, things *not* associated with grandma or the expectation of grandma

The AI selects words that activate incompatible schemas within the same semantic network.

How an AI Might Score Funniness:

Looking at your dataset's wordFunninessGrades and storyFunninessGrades, the AI likely:

1. **Measures semantic distance** between the replacement word and the original context
2. **Checks for taboo/surprise factors** (mild taboo often = funnier)
3. **Evaluates grammatical fit** (must work in the sentence)

4. **Balances absurdity** (too random = confusing, not funny)

In the training dataset I have provided, "religious theme" words in the Little Red Riding Hood example scored well because they maintain internal coherence (all religion-related) while being ***maximally distant from fairy tale expectations***.

Lesson Details

Warmup Activity (10 minutes)

Instructions: Open ChatGPT or Claude.ai. Prompt it as follows (precisely):

> Let's play a riddle game. I will provide clues. Ask me a 'yes' or 'no' question. I will provide the answer as 'yes', 'no', or 'unknown' if the answer does not help at all and is not known. Each time I respond, you can either guess at the answer to the riddle or ask another question. But you only get 3 questions. Here are the clues: "A bear bum is exposed. I am holding a mug in my hand. There is a privacy barrier nearby." What you must solve: Where am I? What is in the mug?

Course Final Project - "Write a Plan or Proposal" (25 - 30 minutes)

Hand back students' project proposals for revision

1) Show them how to prompt an AI to help revise their proposal so that it contains all the elements required - use the checklist and other guidelines that had been previously provided to the students.

2) Demonstrate and discuss why this is an effective way to prompt an AI:

> "I am a student given the task of writing a project plan or proposal. I have a rough draft which I will upload to you. In an interview style, ask me questions, one at a time, about the plan that need to be revised. This is for a college class on "AI Literacy". I can also provide you with a checklist of what is to be included, and the grading rubric my professor is going to use."

Give students time to work on this. Walk around the room and offer help as necessary.

Data Formats - Discussion of Training Data (10 minutes)

Show students the .json file that was used to train an AI for humor. See if they can figure out what the various symbols mean. Discuss the word choices, both ones that were judged to be

'funny' and ones that were judged not to be 'funny'. What sorts of bias exist in the training data? Is there anything inappropriate? (Note: the word 'dimwit') and even some misspellings!

Discuss what .json file format is, and how common it is for applications requiring formatted data

"Fun Libs" Experiment Using Random Word Generator (25 - 30 minutes)

Using 2 or 3 of the "Fun Libs" story frames, and the provided word list for each category. The idea is to see if randomly selecting words might produce an equally funny result.

Each student will be provided with a unique "story" in which they will fill in words.

Once filled in, the stories will be shuffled, and the professor will read one to the class. The students each give it a score of 0 = "not funny" or 1 = "funny".

Let the students determine how to score the story of funny or not funny.

If there is time, feed one of the stories into an LLM and see what it comes up with.

Was it funny? Was there anything one could see as potentially problematic with this sort of use of an AI?

Word Bank - When filling in a Fun Libs Story, locate the list of words for the required part of speech. Use a random number generator to first select a column (numbered 1 - 5) and then a word within that column (1 - 20).

1. NOUNS (100)

1 accountant	kale	coverlet	lederhosen	katana
2 fedora	jelly	bagpipe	poncho	dagger
3 therapist	cluster	tuba	sombrero	hurdy-gurdy
4 podcast	accordion	ukulele	scale	vestibule
5 meme	clickbait	spinner	Studebaker	sauna
6 router	jug	bracelet	buggy	swamp
7 conspiracy	deepfake	unicycle	Cocotaxi	glacier
8 labyrinth	colonoscopy	pogo	rickshaw	puddle
9 bolero	augment	trampoline	gondola	marsh
10 trophy	prenup	castle	Yugo	bedrock
11 selfie	alimony	pit	Segway	pebble
12 crypto	leash	finger	scooter	escalator
13 disease	feather	visor	kickbike	dirigible
14 brawl	mullet	blanket	ebike	dump
15 cracker	toupee	onesie	stiletto	aquaduct
16 shorts	shapewear	romper	slipper	cairn
17 x-ray	bidet	thong	clog	aerialist
18 muzak	scooter	turtleneck	flipflop	ether
19 algae	hoverboard	ascot	mukluk	magma
20 gluten	kazoo	cummerbund	snowshoe	oobleck

2. ADJECTIVES (100)

moist	crusty	scaly	lit	tender
throbbing	musty	scabby	busy	juicy
engorged	dank	oozing	mid	succulent
tumescent	rancid	festering	basic	plump
turgid	putrid	weeping	cringe	rotund
swollen	fetid	seeping	awkward	portly
glistening	rank	gnarly	uncomfortable	chunky
pulsating	gamey	frisky	questionable	hefty
jacked	funky	randy	dubious	beefy
ripped	sweaty	amorous	shady	meaty
shredded	clammy	lusty	shifty	substantial
thick	damp	aroused	slimy	tubular
problematic	soggy	titillated	greasy	bloated
toxic	limp	stimulated	oily	distended
unhinged	flaccid	agitated	slippery	bulbous
feral	wilted	flustered	slick	bulging
deranged	droopy	bothered	smooth	protruding
unwell	saggy	riled	silky	jutting
concerning	wrinkly	torqued	velvety	thrusting
sketchy	leathery	voluptuous	supple	erect

3. VERBS (100)

twerk	bounce	leverage	microdose	block
thrust	jostle	pivot	macrodose	mute
gyrate	manhandle	disrupt	detox	ghost
undulate	castigate	innovate	cleanse	catfish
pulsate	defenestrate	ideate	purge	troll
throb	paw	brainstorm	exfoliate	lurk
quiver	maul	workshop	moisturize	stalk
shudder	munch	onboard	hydrate	creep
convulse	lug	downsize	marinate	slide
spasm	eviscerate	restructure	simmer	swipe
twitch	defile	doomscroll	percolate	match
flinch	desecrate	binge	ferment	screenshot
recoil	gaslight	overshare	pickle	screencap
wince	manipulate	vent	brine	dox
cringe	exploit	unload	cure	hack
squirm	weaponize	unpack	age	phish
writhe	monetize	process	ripen	spam
wriggle	optimize	manifest	mature	upload
jiggle	synergize	visualize	unfriend	download
wobble	incentivize	actualize	unfollow	stream

4. PART OF THE BODY (100)

giblets	corn	gullet	outie	earlobe
gizzard	callus	esophagus	armpit	eyelid
spleen	blister	windpipe	underarm	eyebrow
pancreas	wart	trachea	elbow	eyelash
coccyx	mole	larynx	ankle	cuticle
colon	cyst	uvula	tendon	hangnail
rectum	boil	tonsil	shin	knuckle
sphincter	pimple	adenoid	calf	fingernail
anus	blackhead	appendix	hamstring	toenail
butthole	whitehead	gallbladder	glute	kneecap
taint	pore	bladder	buttock	forearm
perineum	follicle	urethra	cheek	bicep
groin	pustule	prostate	rump	tricep
loins	abscess	testicle	haunches	quadricep
privates	fistula	scrotum	backside	pectoral
giblets	hemorrhoid	nipple	posterior	abdomen
junk	vein	areola	derriere	sternum
bulge	jowls	bellybutton	gluteus	clavicle
cankles	wattle	navel	maximus	scapula
bunion	dewlap	innie	nostril	vertebra

5. ADVERBS (100)

menacingly	provocatively	clammily	mindlessly	numbly
ominously	tantalizingly	stickily	stupidly	hollowly
threateningly	teasingly	greasily	idiotically	emptily
aggressively	coyly	slimily	moronically	vacantly
violently	flirtatiously	goopily	foolishly	blankly
vigorously	coquettishly	sloppily	absurdly	glassily
enthusiastically	demurely	messily	ridiculously	lifelessly
zealously	bashfully	frantically	laughably	listlessly
fervently	sheepishly	desperately	pathetically	lethargically
passionately	awkwardly	urgently	pitifully	sluggishly
ardently	uncomfortably	feverishly	miserably	torpidly
lustfully	painfully	maniacally	wretchedly	languidly
wantonly	excruciatingly	hysterically	deplorably	indolently
lasciviously	agonizingly	wildly	lamentably	apathetically
salaciously	torturously	erratically	regrettably	limply
lecherously	unbearably	chaotically	unfortunately	weakly
carnally	insufferably	haphazardly	sadly	feebly
sensually	intolerably	recklessly	tragically	halfheartedly
seductively	moistly	carelessly	devastatingly	reluctantly
suggestively	damply	thoughtlessly	crushingly	begrudgingly

6. TYPE OF FOOD (100)

sausage	larvae	brine	radishes	grease
cheese	grubs	vinegar	cabbage	lard
tripe	eggs	mustard	brussels	tallow
chitlins	oysters	horseradish	asparagus	suet
tongue	clams	wasabi	artichokes	fat
marrow	mussels	ginger	okra	blubber
liver	sardines	garlic	eggplant	jerky
gizzard	anchovies	onions	zucchini	spam
kidney	herring	leeks	squash	loaf
heart	mackerel	shallots	gourd	paste
brain	lutefisk	scallions	pumpkin	spread
snout	natto	chives	yams	porridge
intestine	tofu	kale	beets	gruel
stomach	tempeh	spinach	mushrooms	slop
haggis	seitan	chard	truffles	mush
escargot	durian	collards	fungus	pulp
crickets	jackfruit	turnips	mold	paste
mealworms	kimchi	rutabaga	yeast	goop
cicadas	sauerkraut	parsnips	gelatin	slime
worms	pickles	beets	gravy	curd

7. ANIMAL (100)

platypus	flea	urchin	sawfish	weasel
mole	tick	starfish	guitarfish	ferret
blobfish	mite	anemone	ratfish	mink
axolotl	louse	jellyfish	toad	stoat
hagfish	termite	squid	bullfrog	marten
lamprey	silverfish	octopus	frog	wolverine
leech	earwig	cuttlefish	salamander	skunk
slug	centipede	nautilus	newt	porcupine
snail	millipede	anglerfish	lungfish	hedgehog
worm	scorpion	catfish	mudskipper	shrew
earthworm	tarantula	carp	snakehead	vole
tapeworm	spider	sucker	piranha	lemming
hookworm	crab	remora	candiru	gopher
roundworm	lobster	eel	vampire	marmot
maggot	shrimp	lamprey	hagfish	groundhog
grub	prawn	shark	opossum	prairie
larvae	crawfish	ray	possum	chipmunk
cockroach	crayfish	skate	wombat	beaver
beetle	barnacle	sturgeon	capybara	otter
bedbug	limpet	paddlefish	badger	platypus

TYPE OF LIQUID (100)

oil	trickle	pickle	asphalt	moonshine
grease	sweat	marinade	petroleum	hooch
lard	perspiration	sauce	kerosene	rotgut
tallow	secretion	gravy	gasoline	swill
fat	excretion	stock	diesel	grog
slime	urine	broth	fuel	mead
mucus	goop	bouillon	ethanol	ale
phlegm	kacka	consommé	methanol	lager
sputum	dung	juice	alcohol	stout
saliva	manure	nectar	spirits	porter
drool	sludge	syrup	liquor	cider
slobber	slurry	molasses	whiskey	perry
spit	slop	treacle	vodka	wine
bile	sewage	honey	rum	sherry
pus	effluent	sap	gin	port
discharge	runoff	resin	tequila	vermouth
ooze	drainage	latex	brandy	champagne
seepage	seepage	tar	cognac	prosecco
leakage	brine	pitch	schnapps	sangria
dribble	vinegar	bitumen	absinthe	punch