A Data

We use a 15K vocabulary (unk-rate 0.5%) and limit the length to 15 tokens (9% sentences are longer) resulting in a 540K sentences (4.8M tokens) dataset which is about six times the size of the Penn Treebank corpus. An excerpt of the (unked) training data is shown below.

TRAIN-SET

a child is sitting inside and watching tv .
the man is wearing worn out jeans .
two motorcyclists are in physical contact .
a girl colors with markers .
nighttime scene of outdoor food kiosk .
man playing trumpet on the street for dollar bills .
there is a sign at the market .
people relaxing on a beach .
the girl is riding in the back seat of the car .
the choir is at the bowling alley .
a man is naked outside .
the woman is interested in art .
a man is cooking .
three asian men conversing while sitting against a wall .
a cat _unk at a sheep .
child shovels snow , near bush , outside of building .
a man holds a bird by the train .
a woman sits at home looking at porn .
women playing a card game .
children are eating apples at their school .
three women wait by a cart of axes at a carnival .
a man with a pierced eyebrow is looking at a laptop screen , while a cat is in the background .
the asian man is working hard on some documents .
people fill balloons .
a man stands next to a bank of computer gambling machines .
a volkswagon bug is driving in a field .
people barely visible except for upraised arms .
young men enjoy the shade under the deck while at the beach .
a musician performs inside .
5 people are in an airplane .
the dog chases a squirrel up a tree .
tall humans performing surgery .
a boy and a girl are playing with dolls in their backyard .
several people play basketball outside .
a man looks at the camera while he sits down in a cluttered house .
two boys skateboard in front of a large statue of a soldier riding a horse in a town plaza .
the men are asleep .
the couple are waiting at the movies .

B Example Output

We report 20 unfiltered generated sentences for each of our proposed models as well as the RNN baselines. For a more representative analysis, please refer to https://github.com/schmiflo/crf-generation where we provide 100K sentences generated by the models along with the reference SRI n-gram models.

DRNN-16D

a group of people are directing vehicles .
a portrait of men .
men walk horses .
a dog runs over a towel slide down the hill .
three women waiting for the bus .
a farmer takes a break .
two white dogs are rolling on the grass .
a clown is wearing mittens .
the man talks away .
two women are throwing yogurt .
young pick camels with it face in the sand .
a classroom of people vendors tacos bowling and protective device .
the divers are being done .
a girl is spinning .
a person is wearing a dark white sling mower .
the woman and a woman are displaying leisure together .
a girl jumping to the skate park .
young firefighters are getting a cookout up .
man looking horse on the river .
more they went competing .

SSM

the man sits the a t-shirt and her snacks from traditional package through work .
some are all music ride behind his the pool .
people smiling around each one a celebrating down their trail .
someone one knives at the cellphone camping video living scaffold .
two waiting to white lawyer in a locker organized open .
a man is performing under food .
he was sitting at home other .
several scientist path in snowboard of new hands at to .
people are a doorbell .
people standing performing down to other .
it employees looking a groom are taking front exhibit
homeless man talking down men clouds at their point .
a child rides the some equipment .
men doing ice pink ball .
the ball is close _unk . .
the indian is wishing and and out as use large ice of fashion " .
puppies riding a movie is weaving the grass driveway
two women pose to mexican new reception is playing
there of man are watching the park .
young are singing with hard rowing among couch on

SSM+CRF

the band plays checkers on the beach .
an artist is swimming .
a football player number plaid shirt together .
a cat is in a gym park nearby .
a child asked does a frozen pole .
cute greyhound train .
a group of people in his newspaper .
a human is selling fun .
nobody is walking past each other on a bowl .
a man takes time looking water with a helmet is hungry .
a pig is near his face .
a person is holding dark .
a man and gold paint a wedding condition .
two people are dancing in strike a bookcase .
there is a gray-haired asian man pose for some art .
a person standing on a roller coaster .
the lighthouse .
a couple gathered for his dog outside .
a group choir dance .
people building is standing next to her family part of a gun .

SEQGAN-20E

two people are attend next .
a man is running in dark .
many people are on their at metal .
there are women on .
two boys are in green .
they are at their like kids .
filled person is in their large with items .
two indian men are chasing .
three people are taking pictures outside .
the boy is parked .
a boy is walking to the wedding .
the man is shopping .
a man is _unk .
a boy in a girl .
a boy is on their next in the mountains .
the man is drinking .
one man is to sitting .
a man is performing a yoga .
a couple is swimming in the camera .
the woman is .

SEQGAN-200E

the girls are a blonde talk .
a workers are very portraits .
football are up in yellow .
child in vegetables .
a girl is in costumes .
children are waiting for something .
woman are eating picture .
three brothers are performing for eyebrows .
dirt man is are in number apples .
a boy is in son .
i eat nice hugging .
the runners are school .
the couple enjoy their dodgeball .
two guard are their bicycle .
individuals are children at their bmx .
dog chasing some kicking .
outer are are around on .
the brother is wearing seated are people with outside .
bride are up .
children are are taking pictures of gray .