○ Single

○ Taken

◉ I drink a lot

Figurative language

Irony

A man was filing for divorce.
Q: "**Occupation**"?
A: "**Marriage Counselor**"

Metaphor

#AdolfHitler is the **#EricCartman** of **#WorldWarII**: racist and prejudiced, yet strategic too.

@MetaphorMagnet

Sarcasm

You know you love your work when you go there on your day off ..

@onlinesarcasm

"It's freezing and snowing in New York – we need global warming!"

"It's freezing and snowing in New York – we need global warming!" - Donald Trump

"It's freezing and snowing in New York – we need global warming!" - Donald Trump

@realDonaldTrump You made us proud!!!

Textual

Finally a President with excellent integrity and loyalty. I have so much respect for you and the job you are doing. Proud!

Timely

@realDonaldTrump Finally a President with excellent integrity and loyalty. I have so much respect for you and the job you are doing. Proud!

Contextual

My lawyers want to sue the failing @nytimes so badly for irresponsible intent. I said no (for now), but they are watching. Really disgusting

@realDonaldTrump Finally a President with excellent integrity and loyalty. I have so much respect for you and the job you are doing. Proud!

Psychological dimensions

My lawyers want to sue the failing @nytimes so badly for irresponsible intent. I said no (for now), but they are watching. Really disgusting

@realDonaldTrump Finally a President with excellent integrity and loyalty. I have so much respect for you and the job you are doing. Proud!

Sensory@@21 Plugged_In@@75 Depressed@@11 Angry@@90
Spacy/Valley_girl@@75 Worried@@77 Arrogant/Distant@@92
Analytic@@42 In-the-moment@@80 Upbeat@@10 Personable@@92

Psychological dimensions

My lawyers want to sue the failing @nytimes so badly for irresponsible intent. I said no (for now), but they are watching. Really disgusting

@realDonaldTrump Finally a President with excellent integrity and loyalty. I have so much respect for you and the job you are doing. Proud!
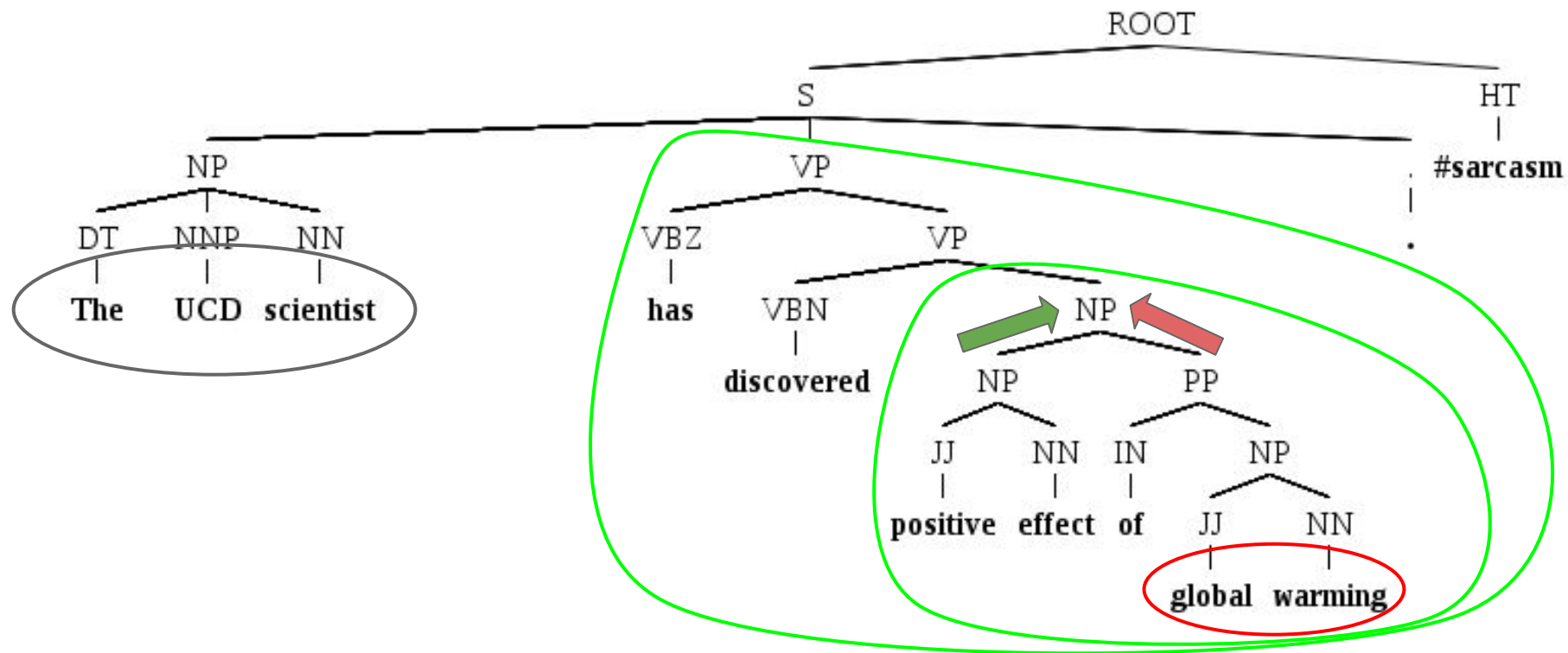
Sensory@@21 Plugged_In@@75 Depressed@@11 Angry@@90
Spacy/Valley_girl@@75 Worried@@77 Arrogant/Distant@@92
Analytic@@42 In-the-moment@@80 Upbeat@@10 Personable@@92

Magnets for Sarcasm

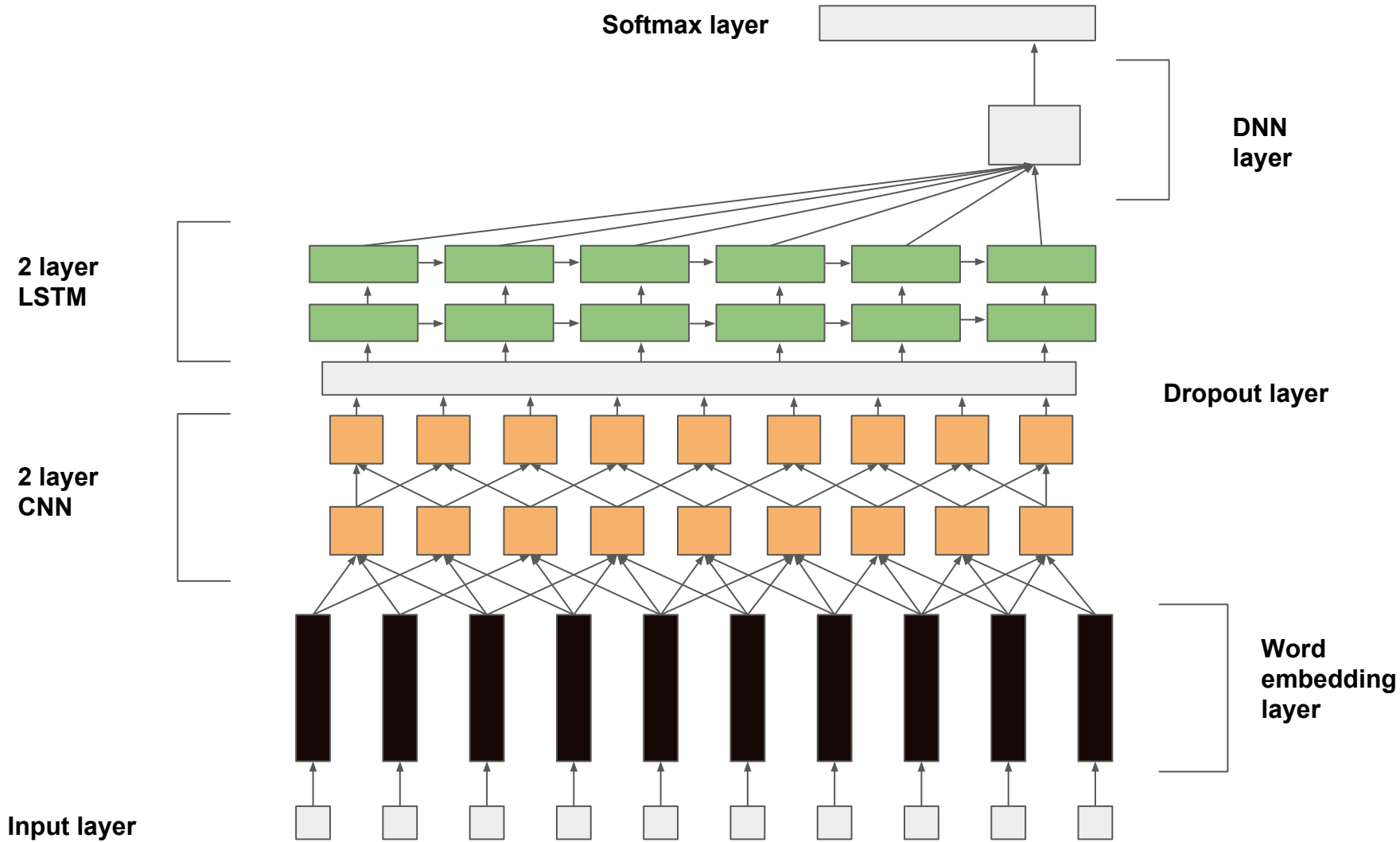Making Sarcasm Detection Timely, Contextual, and
Very Personal

If I ever need a brain transplant, I'd choose yours because I'd want a brain that had never been used.

If I ever need a brain transplant, I'd choose yours because I'd want a brain that had never been used.

ROOT
├── S
│   ├── NP
│   │   ├── DT — The
│   │   ├── NNP — UCD
│   │   └── NN — scientist
│   └── VP
│   ├── VBZ — has
│   └── VP
│   ├── VBN — discovered
│   └── NP
│   ├── NP
│   │   ├── JJ — positive
│   │   └── NN — effect
│   └── PP
│   ├── IN — of
│   └── NP
│   ├── JJ — global
│   └── NN — warming
└── HT
    └── #sarcasm
        └── .

Bad Language

- Feeling great right now #not
- i love it when people try 2 hurt my feelings bc i don't hve any lol..
- i love rting arguments

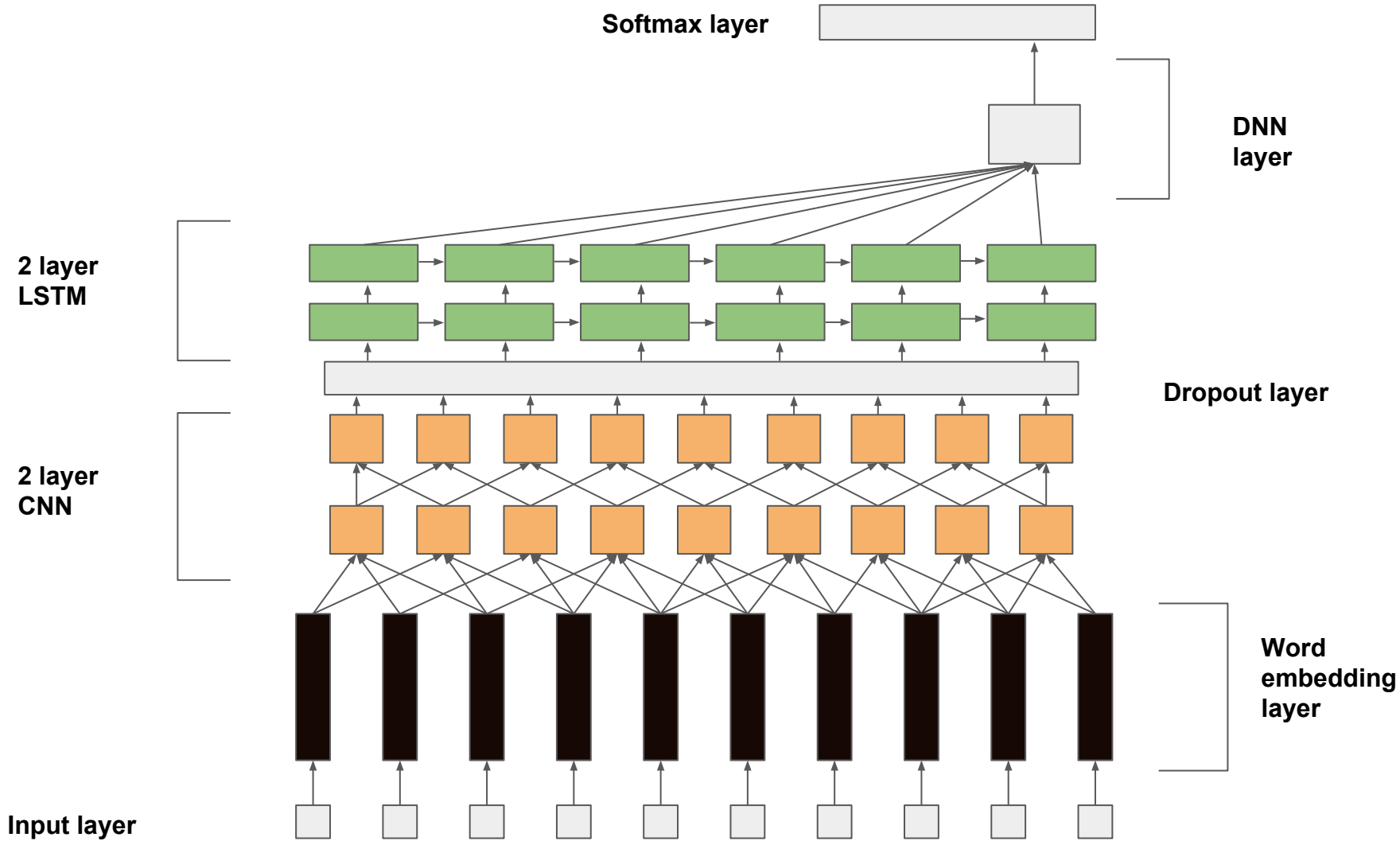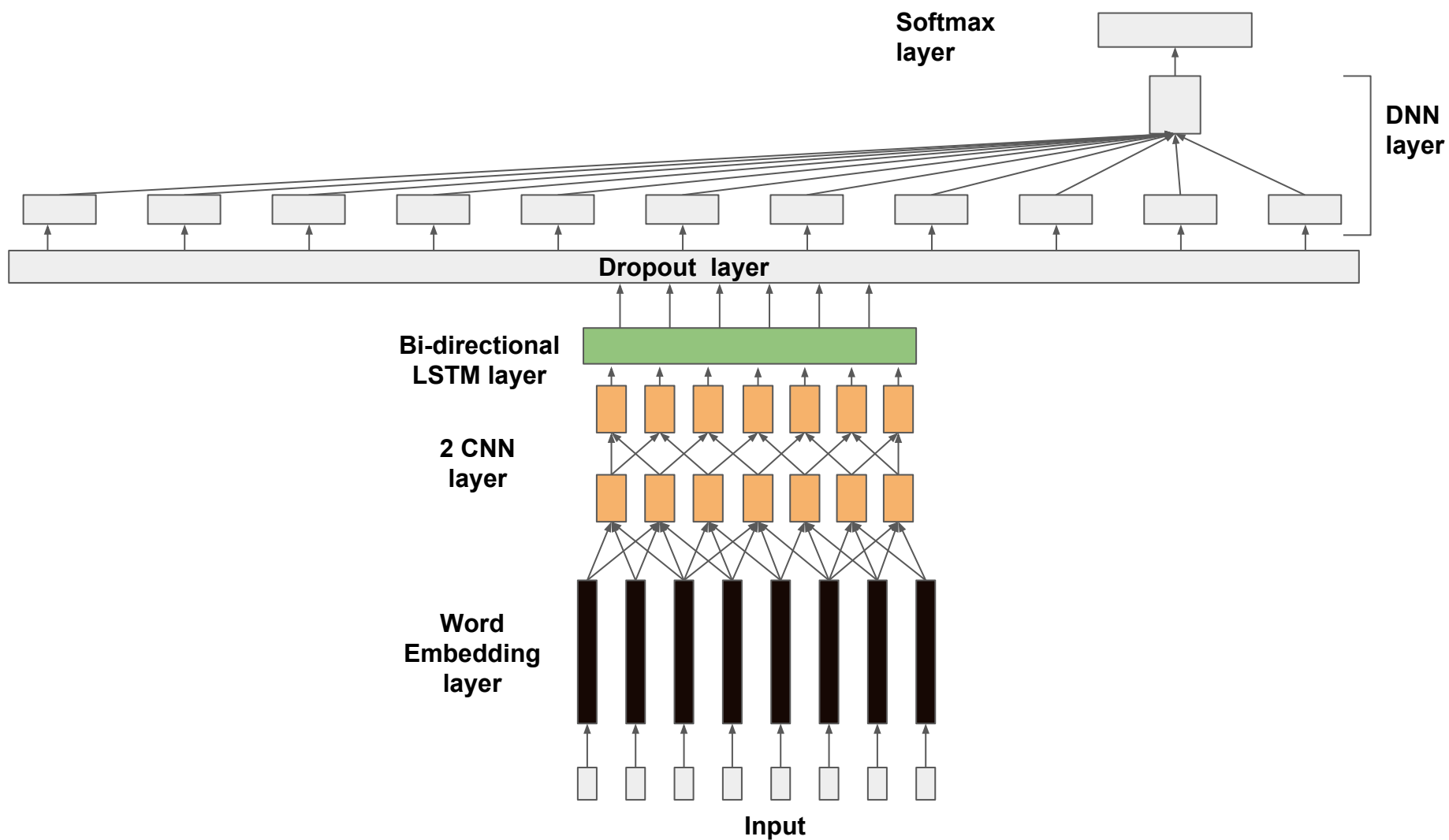Softmax layer

DNN layer

2 layer LSTM

Dropout layer

2 layer CNN

Word embedding layer

Input layer

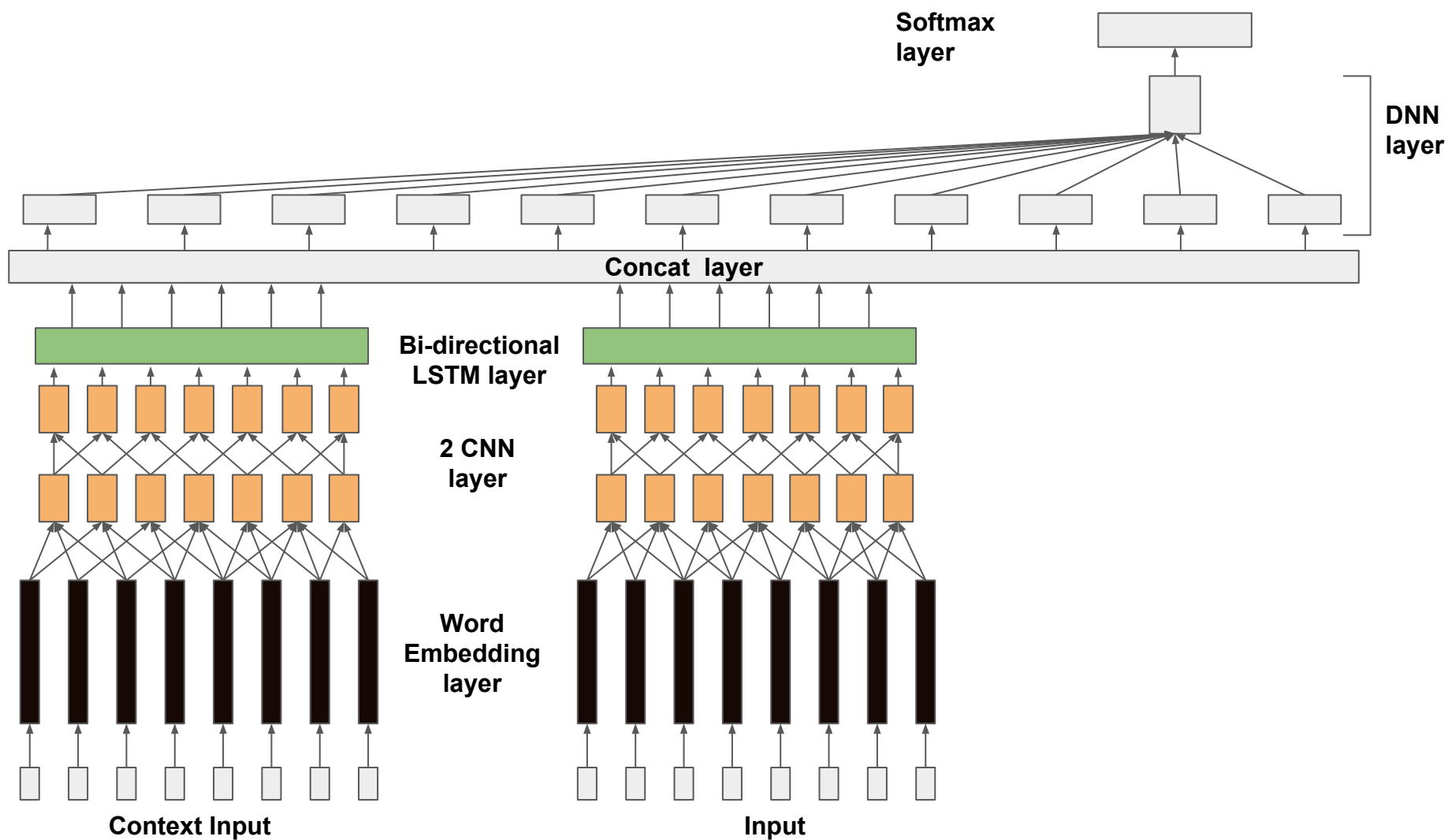| Model	Feature/Hyper parameter	Precision	Recall	F-score
recursive SVM	BOW + POS	.719	.613	.663
recursive SVM	BOW + POS + Sentiment	.722	.661	.691
recursive SVM	BOW + POS + Sentiment + HT-splitter	.743	.721	.732
CNN + CNN	filter size = 64 + filter width = 2	.838	.857	.847
	filter size = 128 + filter width = 2	.842	.86	.854
	filter size = 256 + filter width = 2	.855	.879	.868
	filter size = 64 + filter width = 3	.839	.854	.847
	filter size = 128 + filter width = 3	.856	.879	.868
	filter size = 256 + filter width = 3	.861	.882	.872
LSTM + LSTM	hidden memory unit = 64	.849	.816	.832
	hidden memory unit = 128	.854	.871	.862
	hidden memory unit = 256	.868	.89	.879
CNN + LSTM + DNN (with dropout)	filter size = 256 + filter width = 2 + HMU = 256	.899	.91	.904
CNN + LSTM + DNN (without dropout)	filter size = 256 + filter width = 2 + HMU = 256	.912	.911	.912
CNN + LSTM + DNN (without dropout)	filter size = 256 + filter width = 3 + HMU = 256	.919	.923	.921

Fracking Sarcasm using Neural network
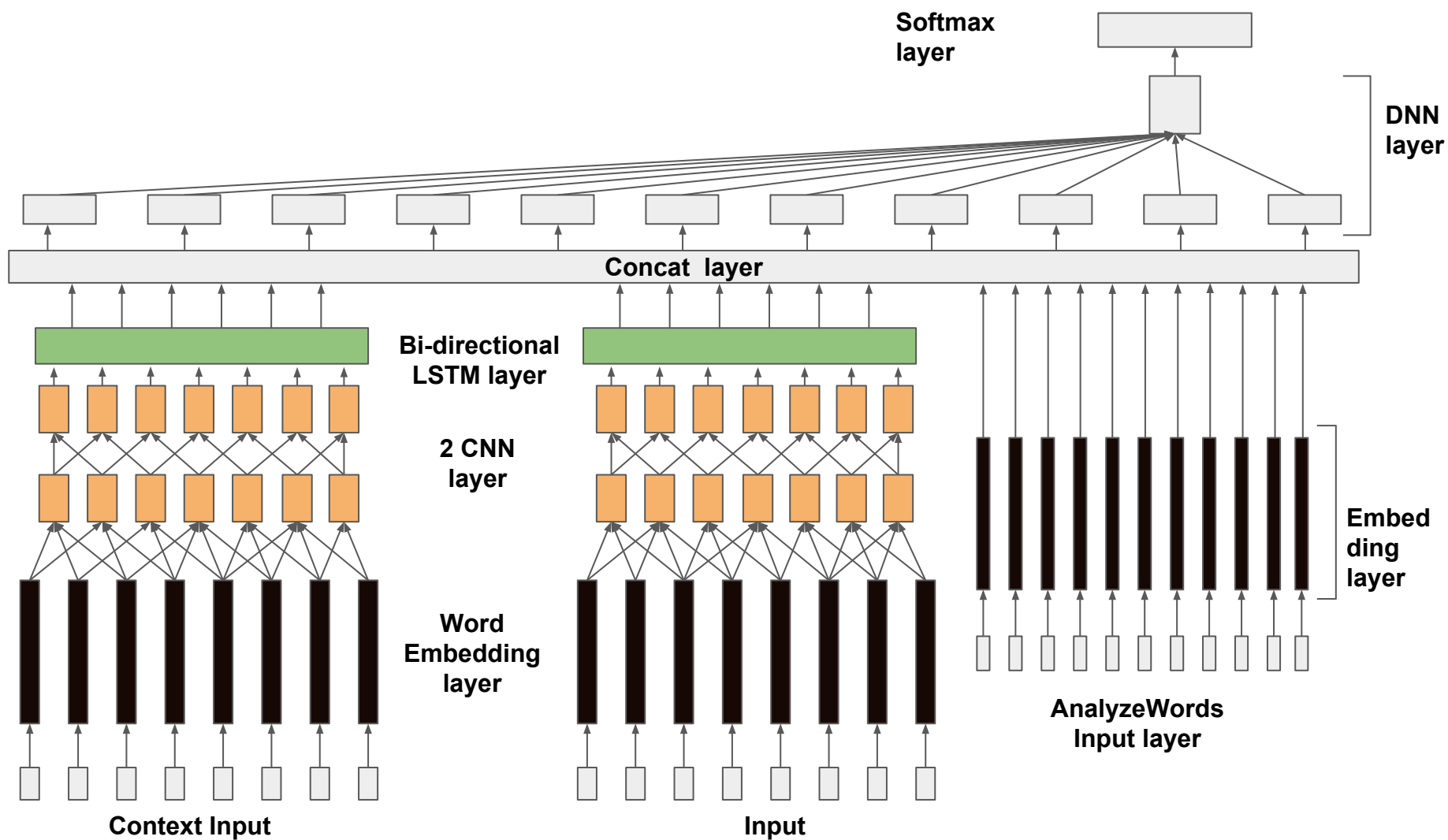
Fracking Sarcasm using Neural Network. Aniruddha Ghosh and Tony Veale. 7th Workshop on Computational Approaches to Subjectivity, Sentiment and Social Media Analysis (WASSA 2016). NAACL-HLT. 16th June 2016, San Diego, California, U.S.A.

How to Integrate into my old neural network?

Softmax layer

DNN layer

2 layer LSTM

Dropout layer

2 layer CNN

Word embedding layer

Input layer

Softmax
layer

DNN
layer

Dropout layer

Bi-directional
LSTM layer

2 CNN
layer

Word
Embedding
layer

Input

Softmax layer

DNN layer

Concat layer

Bi-directional LSTM layer

2 CNN layer

Word Embedding layer

Context Input

Input

Softmax layer

DNN layer

Concat layer

Bi-directional LSTM layer

2 CNN layer

Word Embedding layer

Embedding layer

AnalyzeWords Input layer

Context Input

Input

Datasets

- Bamman sarcasm data
- Ptacek sarcasm data (balanced and unbalanced)
- Sarcasm detector
- Rajadesingan data

Psychological dimensions are reverse-engineered from text using Linguistic Inquiry and Word Count (LIWC).

Dataset		Alternate Configurations of the *Sarcasm Magnet** model						
		TTEA	TTIA	TTEA + CT	TTIA + CT	TTEA + PD	TTIA + PD	TTIA + CT + PD
		CNN1 + LSTM1 + DNN	CNN1 + LSTM1 + DNN	CNN1 + CNN2 + LSTM1 + LSTM2 + CL + DNN	CNN1 + CNN2 + LSTM1 + LSTM2 + CL + DNN	CNN1 + LSTM1 + EAW + CL + DNN	CNN1 + LSTM1 + EAW + CL + DNN	CNN1 + CNN2 + LSTM1 + LSTM2 + EAW + CL + DNN
(Ptáček et al., 2014) (balanced dataset)	P	0.821	0.832	0.908	0.92	0.857	0.86	0.947
	R	0.821	0.832	0.908	0.92	0.857	0.86	0.947
	F1	0.821	0.832	0.908	0.92	0.857	0.86	**0.9472** (0.9466)
(Ptáček et al., 2014) (unbalanced dataset)	P	0.814	0.813	0.926	0.937	0.851	0.843	0.946
	R	0.832	0.833	0.93	0.93	0.833	0.838	0.933
	F1	0.823	0.823	0.928	0.933	0.842	0.84	**0.94** (0.924)
(Bamman and Smith, 2015)	P	0.896	0.90	0.886	0.919	0.825	0.835	**0.9** (0.857)
	R	0.651	0.672	0.819	0.817	0.803	0.827	0.858 (**0.872**)
	F1	0.754	0.77	0.851	0.865	0.814	0.831	**0.878** (0.864)
(Cliche, 2014)	P	0.788	0.8	0.874	0.893	0.884	0.883	0.896
	R	0.751	0.769	0.842	0.843	0.812	0.817	0.862
	F1	0.769	0.784	0.858	0.867	0.846	0.849	**0.879** (0.6)
(Rajadesingan et al., 2015)	P	0.957	0.957	0.957	0.957	0.958	0.958	0.956
	R	0.807	0.807	0.807	0.807	0.861	0.861	0.905
	F1	0.875	0.875	0.875	0.875	0.907	0.907	**0.93** (0.903)
Sarcasm Magnet* (this paper)	P	0.733	0.731	0.84	0.841	0.816	0.82	0.869
	R	0.717	0.732	0.803	0.812	0.801	0.805	0.839
	F1	0.725	0.732	0.821	0.826	0.808	0.813	0.854

Magnets for Sarcasm: Making Sarcasm Detection Timely, Contextual and Very Personal. Aniruddha Ghosh and Tony Veale. Empirical Methods on Natural Language Processing (EMNLP 2017) (Accepted)