Morphological disambiguation

Tagger comparison

The dataset used is UD_English-GUM for this exercise. UDPipe and Perceptron-based tagger(conllu-perceptron-tagger) are used.
Evaluation results for UDPipe tagger are:

Metrics	Precision	Recall	F1 Score	AligndAcc
Tokens	100.00	100.00	100.00	
Sentences	100.00	100.00	100.00	
Words	100.00	100.00	100.00	
UPOS	94.63	94.63	94.63	94.63
XPOS	95.77	95.77	95.77	95.77
Feats	90.86	90.86	90.86	90.86
AllTags	89.82	89.82	89.82	89.82
Lemmas	84.86	84.86	84.86	84.86
UAS	100.00	100.00	100.00	100.00
LAS	100.00	100.00	100.00	100.00

Evaluation results for Perceptron based tagger are as follows:

Metrics	Precision	Recall	F1 Score	AligndAcc
Tokens	100.00	100.00	100.00	
Sentences	100.00	100.00	100.00	
Words	100.00	100.00	100.00	
UPOS	34.03	34.03	34.03	34.03
XPOS	100.00	100.00	100.00	100.00
Feats	100.00	100.00	100.00	100.00
AllTags	34.03	34.03	34.03	34.03
Lemmas	100.00	100.00	100.00	100.00
UAS	100.00	100.00	100.00	100.00
LAS	100.00	100.00	100.00	100.00

Comparing the performance of both taggers on UPOS(Universal Part of Speech), UDPipie tagger performs much better than the perceptron-based tagger. The recall and F1 Score of UDPipe tagger were around 95, whereas the perceptron-based tagger was only 34. Tuning the hyperparameters, like the number of iterations and neurons, might increase its performance.