

	Model	Optimizer	BLEU	METEOR	TER
1	Encoder-Decoder LSTM	sgd	34.18	0.34	0.55
1.1	Encoder-Decoder LSTM	adam	38.62	0.37	0.52
2	Encoder-Decoder Bi-LSTM	sgd	35.09	0.34	0.53
2.1	Encoder-Decoder Bi-LSTM	adam	39.02	0.38	0.51
3	Encoder-Decoder Transformer	sgd	27.44	0.30	0.64
3.1	Encoder-Decoder Transformer	adam	31.00	0.33	0.69
4	Encoder-Decoder GRU	sgd	14.76	0.21	0.65
4.1	Encoder-Decoder GRU	adam	25.27	0.27	0.59

### Best model

#### Model 1

	BLEU	BLEU_NLTK	METEOR	TER
All	34.18	0.34	0.34	0.55
1-tripla	36.72	0.37	0.33	0.51
2-triple	36.99	0.37	0.35	0.51
3-triple	32.85	0.33	0.33	0.56
4-triple	36.09	0.36	0.35	0.56
5-triple	30.39	0.30	0.32	0.60
6-triple	33.87	0.34	0.33	0.56
7-triple	32.51	0.32	0.33	0.56

#### Model 1.1

	BLEU	BLEU_NLTK	METEOR	TER
All	38.62	0.39	0.37	0.52
1-tripla	41.28	0.41	0.36	0.47
2-triple	42.08	0.41	0.39	0.49
3-triple	38.17	0.37	0.38	0.53
4-triple	40.40	0.40	0.38	0.55
5-triple	33.04	0.33	0.35	0.59
6-triple	42.68	0.43	0.39	0.51
7-triple	39.86	0.40	0.38	0.52

#### Model 2

	BLEU	BLEU_NLTK	METEOR	TER
All	35.09	0.35	0.34	0.53
1-tripla	40.23	0.40	0.35	0.47
2-triple	39.61	0.39	0.37	0.49
3-triple	33.24	0.33	0.34	0.56
4-triple	36.23	0.36	0.35	0.56
5-triple	30.68	0.30	0.32	0.60
6-triple	34.13	0.34	0.34	0.54
7-triple	33.31	0.34	0.33	0.56

**Model 2.1**

	BLEU	BLEU_NLTK	METEOR	TER
All	39.02	0.39	0.38	0.51
1-tripla	45.41	0.45	0.39	0.43
2-triple	43.64	0.43	0.40	0.46
3-triple	36.72	0.36	0.37	0.55
4-triple	40.22	0.40	0.38	0.54
5-triple	34.32	0.34	0.36	0.58
6-triple	39.41	0.40	0.37	0.56
7-triple	38.63	0.38	0.37	0.52

**Model 3**

	BLEU	BLEU_NLTK	METEOR	TER
All	27.44	0.27	0.30	0.64
1-tripla	30.08	0.29	0.37	0.79
2-triple	38.59	0.38	0.37	0.52
3-triple	28.22	0.27	0.32	0.56
4-triple	22.24	0.22	0.28	0.62
5-triple	16.15	0.16	0.24	0.67
6-triple	19.15	0.19	0.25	0.63
7-triple	17.20	0.17	0.24	0.66

**Model 3.1**

	BLEU	BLEU_NLTK	METEOR	TER
All	31.00	0.30	0.33	0.69
1-tripla	30.16	0.30	0.37	0.71
2-triple	33.04	0.32	0.35	0.69
3-triple	29.74	0.29	0.33	0.69
4-triple	31.73	0.31	0.33	0.67
5-triple	25.87	0.25	0.31	0.65
6-triple	30.91	0.30	0.32	0.61
7-triple	24.81	0.24	0.29	0.65

**Model 4**

	BLEU	BLEU_NLTK	METEOR	TER
All	14.76	0.15	0.21	0.65
1-tripla	27.42	0.28	0.26	0.57
2-triple	21.58	0.21	0.25	0.60
3-triple	15.53	0.15	0.22	0.66
4-triple	10.65	0.11	0.19	0.70
5-triple	8.18	0.08	0.18	0.73
6-triple	6.90	0.07	0.17	0.73
7-triple	4.31	0.04	0.14	0.77

**Model 4.1**

	BLEU	BLEU_NLTK	METEOR	TER
All	25.27	0.25	0.27	0.59
1-triple	30.10	0.30	0.28	0.55
2-triple	29.81	0.30	0.30	0.56
3-triple	24.61	0.24	0.28	0.59
4-triple	25.53	0.26	0.28	0.61
5-triple	20.19	0.20	0.25	0.65
6-triple	23.02	0.23	0.26	0.63
7-triple	18.36	0.18	0.23	0.67