

GEC literature-review

| Paper | Model | Dataset | Best result (Accuracy, f1, ...) |
|--|---|---|--|
| (grammarly model) GECToR – Grammatical Error Correction: Tag, Not Rewrite: https://www.semanticscholar.org/paper/GECToR---Grammatical-Error-Correction%3A-Tag%2C-Not-Omelianchuk-Atrasevych/9f6b659033da6fff11da1af64fea7c0d728ab433 | Pretrained BERT transformer model. | Synthetic data: 9M parallel sentences with synthetically generated grammatical errors. Training data: National University of Singapore Corpus of Learner English (NUCLE); Lang-8 Corpus of Learner English (Lang-8); FCE dataset; Write & Improve + LOCNESS Corpus; Evaluation dataset: CoNLL2014 test set | Precision - 77.5; Recall - 42.6; F_0_5 - 58.6; |
| Improving Grammatical Error Correction via Pre-Training a Copy-Augmented Architecture with Unlabeled Data: https://www.semanticscholar.org/paper/Improving-Grammatical-Error-Correction-via-a-with-Zhao-Wang/f828b3c378434b8945c4e21472e7e2efa908b6eb | Denoising auto-encoder | Labeled - NUCLE, Lang-8 Unlabeled - One Billion Word Benchmark | Precision - 71.5; Recall - 38.6; F_0_5 - 61.1; |
| A Multilayer Convolutional Encoder-Decoder Neural Network for Grammatical Error Correction: https://www.semanticscholar.org/paper/A-Multilayer-Convolutional-Encoder-Decoder-Neural-Chollampatt-Ng/6ed38b0cb510fa91434eb63ab464bee66c9323c6 | Multilayer Convolutional Encoder-Decoder Neural Network | Training: Lang-8, NUCLE Evaluation: CoNLL-2014 test set | Precision - 68.5; Recall - 33.1; F_0_5 - 54.7; |
| LM-Critic: Language Models for Unsupervised Grammatical Error Correction: https://www.semanticscholar.org/paper/LM-Critic%3A-Language-Models-for-Unsupervised-Error-Yasunaga-Leskovec/9cac09098aa611bd9a94d080d2401840632ab16f | GPT2 LM Critic model | Training: Unlabeled One-billion-word corpus dataset. Evaluation: CoNLL2014 test, BEA-2019 dev / test, GMEG-yahoo and GMEGwiki tests, | Precision - 64.4; Recall - 47.1; F_0_5 - 55.5; |
| Mining Error Templates for Grammatical Error Correction: https://www.semanticscholar.org/paper/Mining-Error-Templates-for-Grammatical-Error-Zhang-Jiang/a4436ee59d7fb430a49fdc2d58f0a52b7a772f5b | Baseline GEC model + ET (Error Template) | Chinese language datasets: CTC-20216; NLPCC-2018; MuCGEC | Precision - 64.29; Recall - 67.28; F_0_5 - 59.21; |