Related work based on research paper topic

Automated Text Translation and Correction System

1. # A New Method for Vietnamese Text Correction using Sequence Tagging Models

   Thoa Bui Thi;Hoa Luong Nguyen Hoang;Hien Nguyen Thi;Anh Phan Viet - **In this paper, we present a new approach for Vietnamese text error correction. A corrector consists of a Transformer to encode the input sequence, and sequence tag-gers to perform both error detection and correction. For the taggers, we apply special tokens to process insertions, deletions, and substitutions. The correction is performed in many steps repeatedly until the stopping criteria are met. At each step, we just correct the source sentence with minimal spans of tokens. These solutions make two advantages including 1) detecting and correcting various error types of Vietnamese texts, and 2) not generating uncontrollable outputs as generative models. As a result, our approach has yielded remarkable performance. On realistic dataset, our proposal model archives 79.5 % errors detected and 62.7% errors corrected; the highest SacreBLEU score is 86.10, that is a promising result.**

2. # Automatic Correction of Text Using Probabilistic Error Approach

   P Nagaraj;V Muneeswaran;Niamatullah Ghous;Mahtab Ahmad;Pavan Kumar;Vinayak - **Continuous research effort has been paid to automatic spelling correction. Although each study provides a quick introduction to the problem, there is a paucity of work that**

would combine the analytical foundations and provide a summary of the approaches investigated thus far. our study has chosen spelling correction publications from 1991 to 2019 that were indexed in Scopus and Web of Science. The first group follows a predetermined set of guidelines. The second group makes use of an extra context model. The third subset of the survey's computerized spelling checkers can modify its model to fit the situation. The summary tables identify each system's application domain, language, context model, and string metrics. To fix the publicly available construction data, this work attempts to create an automated data correction system. The handling of the construction data is hampered by its unstructured character. Due to different types of users, lengthy system operation, and substantial pretraining time, the information management system has a lot of data in inconsistent formats or even erroneous data. The conversion of the construction data into a machine-readable format requires a lot of time and work.

3. An efficient system for grammatical error correction on mobile devices

4. Sourabh Vasant Gothe; Sushant Dogra; Mritunjai Chandra; Chandramouli Sanchi; Barath Raj Kandur Raja

Automatic Correction of Human Translations: Lin et al. (2022)

Summary of the Translation Error Correction (TEC) Model

Translation Error Correction (TEC) is a crucial task aimed at refining human-generated translations. The proposed TEC model utilizes a **dual-source encoder-decoder architecture** based on the Transformer network. By processing both the source text and its initial translation, the model generates corrected outputs while leveraging a **copy mechanism** to retain accurate segments.

Training Approach:
TEC follows a **two-phase training strategy**:

- **Pre-training:** The model learns error patterns from synthetic data by deliberately corrupting correct translations.
- **Fine-tuning:** It is refined using the **ACED corpus**, which contains real-world human translation errors and corrections.

Comparative Model Analysis:
TEC was evaluated against four related models:

1. **Machine Translation (MT):** High recall but low precision due to excessive edits.
2. **Grammatical Error Correction (GEC):** High precision but low recall, as it lacks source context.
3. **Automatic Post-Editing (APE):** Structurally similar but underperforms due to different data synthesis methods.
4. **BERT-APE:** Over-edits translations, leading to low precision.

Key Findings:
TEC **achieved the highest F0.5 score**, outperforming all models due to its ability to balance precision and recall. The study highlights the importance of **task-specific training**—models designed for **machine translation correction** may not directly apply to **human translation correction**.

Implications & Future Work:
TEC enhances translation quality and **assists professional translators** by automating correction tasks. Future research can **integrate TEC into real-time translation workflows** and expand its effectiveness across **multiple languages and domains**.

The TEC model **sets a new benchmark** in translation correction by effectively adapting machine learning techniques to human-generated translations.