Abstract

In this paper, we propose RIDBE (Reinforced Intelligent Dictionary Based Encoding), a Dictionary-based reversible lossless text transformation algorithm. The basic philosophy of our secure compression is to preprocess the text and transform it into some intermediate form which can be compressed with better efficiency and which exploits the natural redundancy of the language in making the transformation. In RIDBE, the length of the input word is denoted by the ASCII characters 232 – 253 and the offset of the words in the dictionary is denoted with the alphabets A-Z. The existing or backend algorithm’s ability to compress is seen to improve considerably when this approach is applied to source text and it is used in conjunction with BWT. A sufficient level of security of the transmitted information is also maintained. RIDBE achieves better compression at the preprocessing stage and enough redundancy is retained for the compression algorithms to get better results. The experimental results of this compression method are analysed. RIDBE gives 19.08% improvement over Simple BWT, 9.40% improvement over BWT with *-encode, 3.20% improvement over BWT with IDBE, 1.85% over BWT with EIDBE and about 1% over IIDBE.
RIDBE: A Lossless, Reversible Text Transformation Scheme for Better Compression

References


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Index Terms

- Computer Science
- Image Processing

Keywords

- Compression
- Decompression
- Preprocessing
- Dictionary methods