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Prof. Bjorn Ottersten

Editor-in-Chief

Signal Processing

Dear Bjorn Ottersten,

I wish to submit a new manuscript entitled “Optimised Cost Considering Huffman Code for Biological Data Compression” for consideration by the Signal Processing journal.

I confirm that this work is original and has not been published elsewhere nor it is currently under consideration for publication elsewhere.

In this paper, we propose a new approach to improve compression performance of a cost considering version of the Huffman code by applying genetic algorithm. I believe this paper should be of interest to the readers in the areas of theoretical computer science, digital signal processing, data communication, coding and information theory.

Classical Huffman codes have very good compression performance over traditional systems. But more efficient encoding is possible by considering and applying techniques that treats the binary bits differently considering its requirement of storage space, energy consumption, speed of execution and etc. A number of techniques already modified Huffman code algorithm to obtain optimal prefix-codes for unequal letter costs in order to reduce overall transmission cost (time). This work proposes an algorithm based on genetic algorithm to improve compression performance of one such approach. We used some standard biological dataset as input to evaluate the performance of the proposed approach. The experiments confirm that the proposed approach improves the compression performance of the cost considering version of the classical Huffman code.

Thank you for your consideration of this manuscript.

Please address all correspondence concerning this manuscript to me at s.kabir@hull.ac.uk.

Yours sincerely

Sohag Kabir