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CS502

GDB No 1 Solution

Spring 2021 by Raise for Success

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Requirement:

Problem: Lets assume you are working on a project with Company “ABC”. You have now been hired for the position of Machine learning Engineer and charged with various tasks. These include a decision about the selection of **Raise For Success** technique or algorithm for efficient data compression as you will see the scenario. Company ABC s

dealing with big data and they want to compress data because one of the most crucial steps or the company is towards efficient data protection, lossless and speedy transfer over the network at less cost. So your job being an ML Engineer is to choose a compression technique from available two opinions (Fixed Length vs Variable Length) given to you by the company. **Raise For Success** Keep in mind all the important parameters while deciding about the compression approach like:

- Efficient reduction in the size of data.
- Secured error free compression and decompression of data.
- Accuracy level must be high.
- Speed up data transfer over the network and reduced transmission cost.
- ASCII code should not be used to encode strings or characters.

In a nutshell by looking at all the above points now you have to decide which technique is suitable and efficient for Company ABC **Raise For Success** either Fixed Length Data Compression or the Variable-Length Data

Compression technique and why? Kindly suggest anyone algorithm that works perfectly for your chosen approach?

Support you answer with proper justification.

Answer:

After doing research I have observed that Variable – Length Data compression is suitable and efficient for Company “ABC”. **Raise For Success** Because it completely fulfills the demands of the company. Variable length codes can allow sources to be compressed and decompressed data with zero error and still be read back symbol by symbol. While Fixed – Data **Raise For Success** compression technique is not the most efficient from the perspective of minimizing the quantity of data. Each character is represented by a fixed – length codeword of bits. In which characters are coded using standard codes like ASCII. But variable – length **Raise For Success** codes do not use it. Huffman encoding algorithm works perfectly with variable – length approach. This algorithm procedure finds the

optimum, uniquely decodable, variable length code associated with a set of events, given their probabilities **Raise For Success**of occurrence. Variable – length Huffman encoding algorithm will produce shorter message of the same string than fixed – length data compression.

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