Abstract

Any error-concealment technique can be applied at the decoder, it is necessary first to find out whether and where a transmission error has occurred. Error detection can be performed at the transport coder/decoder and at the image decoder. One way to perform error detection at the transport coder is by adding header information containing a sequence number. At the transport decoder, the sequence number can be used for packet-loss detection. Another method at the transport level is to use a forward error correction (FEC). There are also methods that can exploit the characteristics of natural image signals where the differences of pixel values between two neighboring lines are used for detecting transmission errors. When the difference is greater than a threshold, the current image segment is declared to be damaged. When VLC is used in the source code, any damage to a single bit can cause resynchronization, resulting in the subsequent bits being undecodable. However, this property can be used as a means to detect transmission errors. In addition, the syntax embedded in the bit stream can also be used for error detection.
- JPEG 2000 Part 1—Core Coding System.

Index Terms

Computer Science

Image Processing
Keywords
Forward Error Concealment  interpolation  joint source channel coding  robust image transmission
image  system model