Sharp-edges method in Arabic text steganography

ABSTRACT

One of the issues that arise in the text steganography is the capacity of hiding secret bit. Focusing in Arabic text steganography we propose a sharp-edges method to encounter the issue. This new method will hide the secret bits in the sharp-edges for each character in the Arabic text document. The main processes involved are identifying sharp-edges in the cover-text, secret message preparation to be hidden as a binary string and lastly, the bit hiding process. The experiments show that the capacity percentage used to hide the secret bit was increased up to 37.8%, resolving the capacity issue. The stego-text for this method has high invisibility, and therefore it is possible to be published publicly. We introduce keys to determine the possition of the secret bit randomly. This method utilizes the advantages of the Arabic text for steganography and can also be implemented to the same text scripting of languages such as Jawi, Persian or Urdu.