

## **Study and evaluation of watermark extraction techniques using computational intelligence**

With the rapid growth of the Internet and multimedia systems in distributed environments, it is easier for digital data owners to transfer multimedia documents across the Internet. Therefore, there is an increase in copyright protection of digital contents. Traditionally, encryption and control access techniques were employed to protect the ownership of media. However, these techniques do not protect against unauthorized copying after the media have been successfully transmitted and decrypted. So to overcome from this problem watermark techniques are utilized to maintain the copyright. Therefore, it is necessary to provide digital watermarking techniques to protect digital multimedia intellectual copyright. Digital watermarking is a method to assert an intellectual copyright in the electronic world. It is typically used to identify ownership of the copyright of such signal.

The main objective of watermarking is to provide security and ownership of the digital content. So any unauthorized user can't access any data. So to protect digital content, the work proposes a new watermarking method which provides higher level security. And also use of the computational AI techniques to extract watermark which provides access of only authenticated users.

In this research it is planned to develop DCT and DWT based watermark embedding techniques for different multimedia content along with watermark thumb impression of authenticated users. After embedding watermark the secured watermarked content is generated, which contains dual watermarks. After insertion of dual watermarks, Support Vector Machine and feature extraction methods are used along with the normalized chanincode is applied for efficient watermark extraction and the best secured way. This type of system has applications in many fields where powerful security is required in multimedia content.