UNIVERSITY OF WESTMINSTER⌘

INFORMATICS INSTITUTE OF TECHNOLOGY

INFORMATIC INSTITUTE OF TECHNOLOGY

In collaboration with

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"DETECKZy"

SPLICED IMAGE DETECTION BASED ON CHARACTERISTIC DIFFERENTIATION
ON A TAMPERED IMAGE

A Dissertation By

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Abstract

The revolution of a communication platform for digital communication had been driven with the remarkable awakening of the digital images on social media. It touches nearly every face at our personal and business lives. As per the expansions of the digital media, imposters have been given a corrupted face to those images which were communicated among the social networks. Even though the imposters were engaged in corrupting the communication platforms with the digital images, the people used to believe what they have seen as a top priority by despite the fact that they unawareness about the image content. According to the professors A. Wade and M. Garry they convey most parts of the human brain believe what they visualize. The computer-generated stimuli suggest individuals are poor at distinguishing geometrical irregularities inside a scene. It suggests that people can easily detect physically implausible rather than the statistical difference in image manipulation.

The project mainly focused on spliced image detection and blur localizing mechanisms as these are the most common techniques on tempered images. Most of the previous works done for these techniques were limited to one or two feature extractions. This system ensured to have multiple classifications according to the scale of the tempered region. The images were clustered into different image groups, and multiple combinations of statistical characteristics specific to each will be evaluated to get reliable accuracy and constant system scalability.

The research is all about to localize the copy move forgery spliced regions for any standard image resolutions. Moreover the system DETECKZY could able to identify and localize the defocus and motion blur regions by outputting blur pixel amount out of all pixels. The overall system was implemented with an advance evaluation of domain experts besides system testing was evaluate with attested test results which were carried out with exceptional analysis.

Subject descriptors:

Image processing and computer vision ~Image feature extraction and classification

Image processing and computer vision ~Segmentation analysis

Image processing & computer vision ~Markova feature analysis & Discrete Fourier Transform

Keywords:

Forensics Science, Image processing, Feature Extraction, Copy-Move Forgery, Steganalysis