CLINICAL DIAGNOSIS BASED ON TUMOR BIOMARKERS ANALYSIS USING DIGITAL IMAGE PROCESSING AND DIGITAL BIOMARKERS DETECTORS CASE STUDY: EPITHELIAL DYSPLASIA CANCER

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Considerable researches has been devoted to study tumor biomarkers digital images. Information gathered from studying these images are good source for automating clinical diagnosis of tumors. This research investigate the techniques used for analyzing Microscopic images that contain tumor biomarkers in term of diagnosis and also presents an automated method for analyzing epithelial dysplasia microscopic biomarker digital images to provide a clinical diagnosis epithelial dysplasia tumor biomarkers based on both applying the adaptive threshold and the mathematical calculations of processing the tumor biomarkers images. 100 tumor marker digital images for both normal and epithelial dysplasia cases have been experimented. we preprocess the digital images to enhance them, after that we apply the adaptive threshold. We achieved a novel finding for determining the value of the window size for epithelial dysplasia images. We also propose a mathematical method that can be used for processing of epithelial dysplasia images for the clinical diagnosis of these markers to determine if it is normal or contain epithelial dysplasia. The results showed that 94% of epithelial dysplasia tumor biomarkers were correctly diagnosed.

Biography

Hussam N. Fakhouri is a Instructor at the University of Jordan, Amman Jordan he also responsible for the quality assurance in the Facluty. His first published research was in year 2006 about Genome image processing after that he published more than 30 researches in different fields. He studied a PhD in artificial intelligence. He also was an Erasmus scholar to attend many research courses in Denmark, Germany and Russia.

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