

(54) Title of the invention : IMAGE PROCESSING AND MACHINE LEARNING METHODS FOR KIDNEY STONE DETECTION IN CT SCANS

(51) International classification :G06N0003080000, G06N0003045000, G06T0007000000,
G16H0050200000, A61B0005000000

(86) International Application No :NA
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to :NA
Application Number :NA
Filing Date :NA

(62) Divisional to Application Number :NA
Filing Date :NA

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(57) Abstract :
 IMAGE PROCESSING AND MACHINE LEARNING METHODS FOR KIDNEY STONE DETECTION IN CT SCANS The method for the development of the system where the kidney stones are a prevalent problem that lead many patients to check themselves into emergency rooms in excruciating pain. Diagnosing kidney stone illness involves the application of many imaging modalities. To fully diagnose and interpret these pictures, specialists are required. Systems for computer-aided diagnosis are useful techniques that can be employed as supplemental instruments to help physicians diagnose patients. Using coronal computed tomography (CT) images; an automated kidney stone identification method is suggested in this study using the deep learning (DL) technology, which has lately made major advancements in artificial intelligence. Kidney stones can be identified by conventional convolutional neural network (CNN)-based deep learning technologies. The suggested deep learning architecture uses a Kronecker product-based convolution approach to lessen feature map redundancy without convolution overlap. We present an approach that extracts detailed and abstract information from the input photos, hence improving the network's efficiency. FIG.1

No. of Pages : 15 No. of Claims : 1