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(54) Title: AUTOMATIC CLINICAL WORKFLOW THAT RECOGNIZES AND ANALYZES 2D AND DOPPLER MODALITY
ECHOCARDIOGRAM IMAGES FOR AUTOMATIC CARDIAC MEASUREMENTS AND THE DIAGNOSIS, PREDICTION AND
PROGNOSIS OF HEART DISEASE

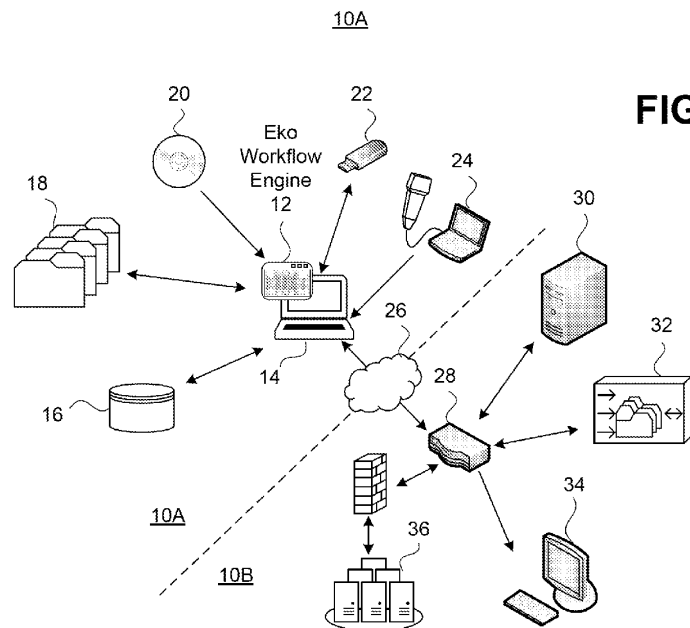


FIG. 1A

(57) Abstract: An automated workflow performed by software executing on at least one processor includes receiving a plurality of echocardiogram images taken by an ultrasound device. A first filter separates the plurality of echocardiogram images by 2D images and Doppler modality images based on analyzing image metadata. A first neural network classifies the 2D images by view type, and a second neural network classifies the Doppler modality images by view type. A third neural network segments cardiac chambers in the 2D images and a fourth neural network segments the Doppler modality images to generate waveform traces, producing segmented 2D images and segmented Doppler modality images. Using both the sets of images, measurements of cardiac features for both left and right sides of the heart are calculated. The calculated measurements are compared with international cardiac guidelines to generate

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