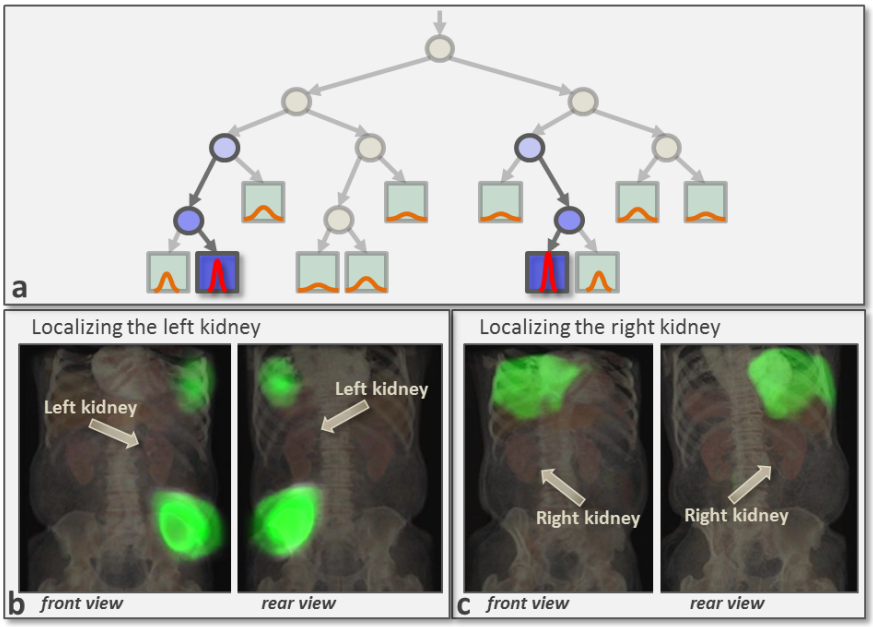

Fig. 4.14: **Automatic discovery of salient anatomical landmarks.** **(a)** Leaves associated with the most peaked densities correspond to clusters of points which predict organ locations with high confidence. **(b)** A 3D rendering of a CT scan and (in green) landmarks automatically selected as salient predictors of the position of the left kidneys. **(c)** Same as in (b) but for the right kidney.

feature tests. Thus, the green regions represent some of the anatomical locations that were used to estimate the location of the chosen organ. In this example, the bottom of the left lung and the top of the left pelvis are used to predict the position of the left kidney. Similarly, the bottom of the right lung is used to localize the right kidney. Such regions correspond to meaningful, visually distinct, anatomical landmarks that have been computed without any manual tagging.

Recently, regression forests were used for anatomy localization in the more challenging full-body, magnetic resonance images [68]. See also [38, 76] for alternative techniques for regressing regions of interest