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(54) **Titre : ARCHITECTURE DE RESEAU A DENSITE DE PIXELS ELEVEE**

(54) **Title: HIGH PIXEL DENSITY ARRAY ARCHITECTURE**





IGNIS Innovation

PIXEL STRUCTURE PROPOSAL

Revision: 1.1
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1. High Resolution Pixel Structure

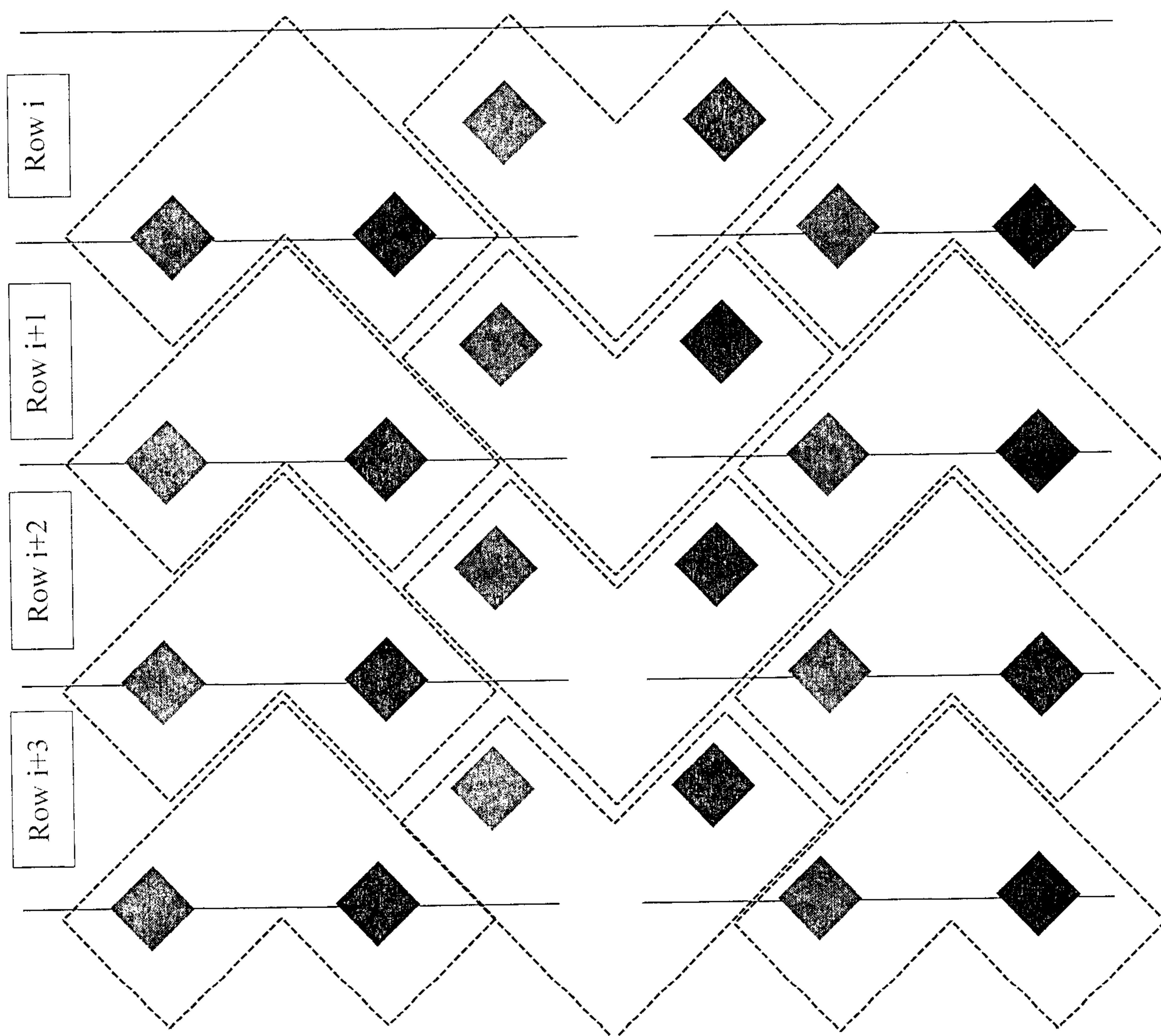


Figure 1: High resolution pixel arrangement (dash lines show an example of individual pixels. However one can use different set of sub-pixel to define a pixel)

Figure 1 shows a pixel arrangement that reduces the pixel pitch in both vertical and horizontal direction for getting higher pixel density. For example, if the minimum pixel pitch for vertical direction is 'a' and for horizontal direction is 'b', the pixel pitch for the proposed pixel will be $(a^2+b^2)^{0.5}/2$. Where 'a' and 'b' are the same, the pixel pitch will be $(1/2)^{0.5}a$. Therefore, the pixel pitch will be 0.7 of the original pixel pitch.

Here, one can change the sub-pixel shape and orientation without affecting the end results. In addition, one can use different set of sub-pixels to define a pixel. Figure 2 to Figure 4 shows some example of these cases. However, the possible combinations are not limited to these cases. Also any change in any of the embodiment is applicable to all the other embodiment in the patent.

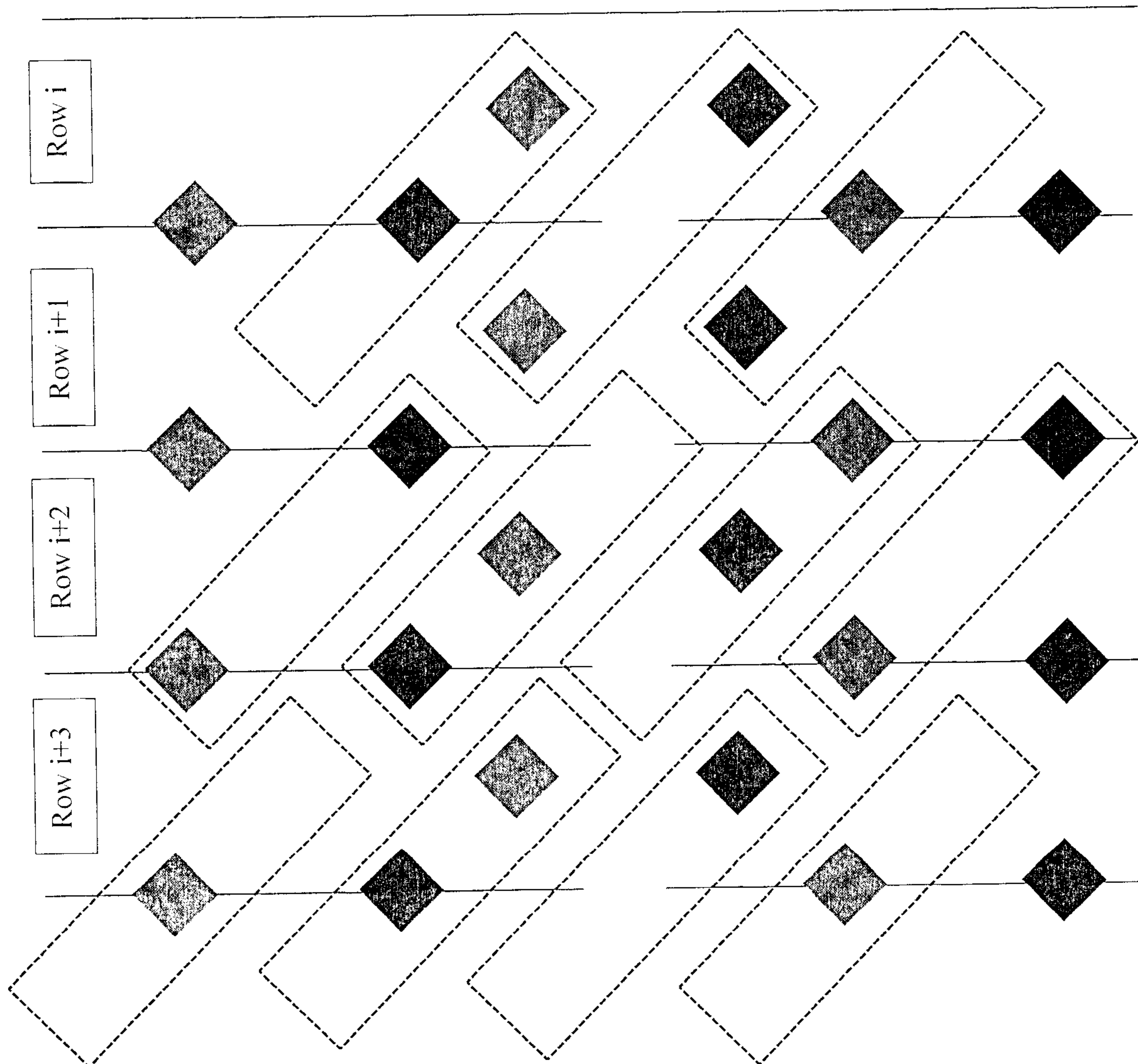


Figure 2: High resolution pixel arrangement (dash lines show an example of individual pixels. However one can use different set of sub-pixel to define a pixel)

This is another example of the same sub-pixel arrangement as of Figure 1 but with different pixel combination. Also, other pixel combination can be developed with the same outcome. In addition, one can change the shape and orientation of sub pixel without affecting the pixel pitch significantly.

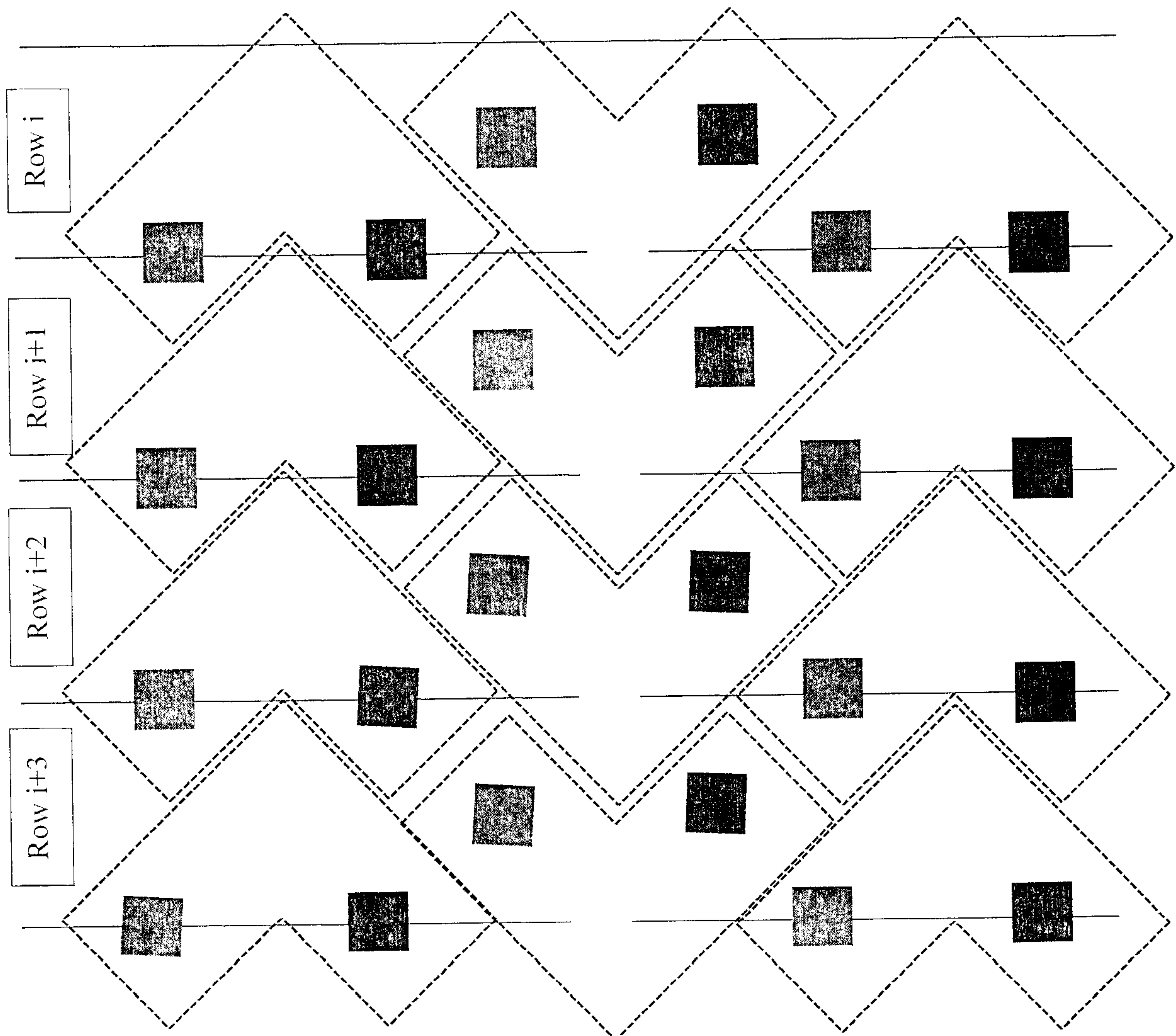


Figure 3: High resolution pixel arrangement (dash lines show an example of individual pixels. However one can use different set of sub-pixel to define a pixel)

This is another example of the same sub-pixel arrangement as of Figure 1 but with different sub-pixel orientation.

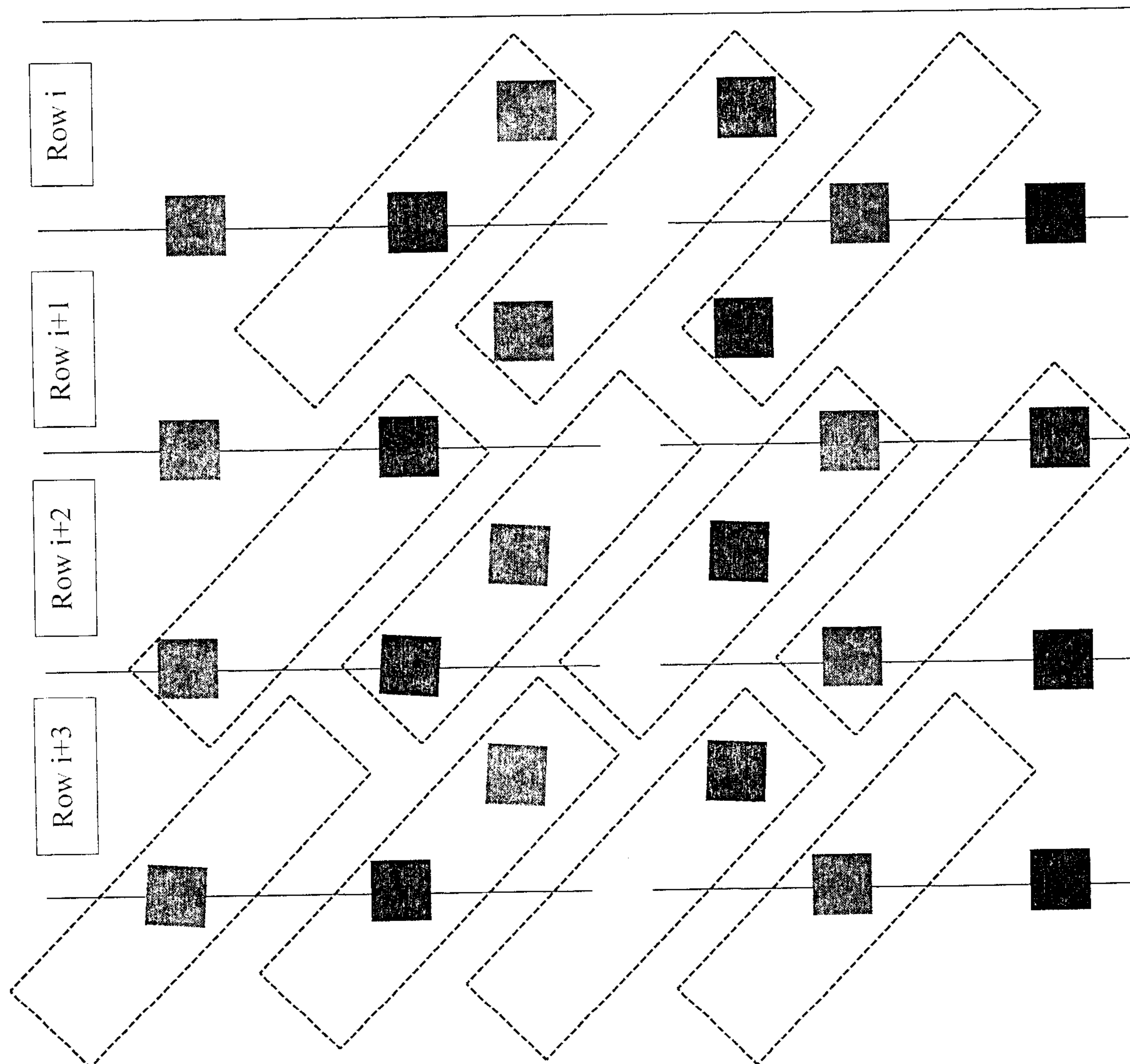


Figure 4: High resolution pixel arrangement (dash lines show an example of individual pixels. However one can use different set of sub-pixel to define a pixel)

This is another example of the same sub-pixel arrangement as of Figure 2 but with different sub-pixel orientation.

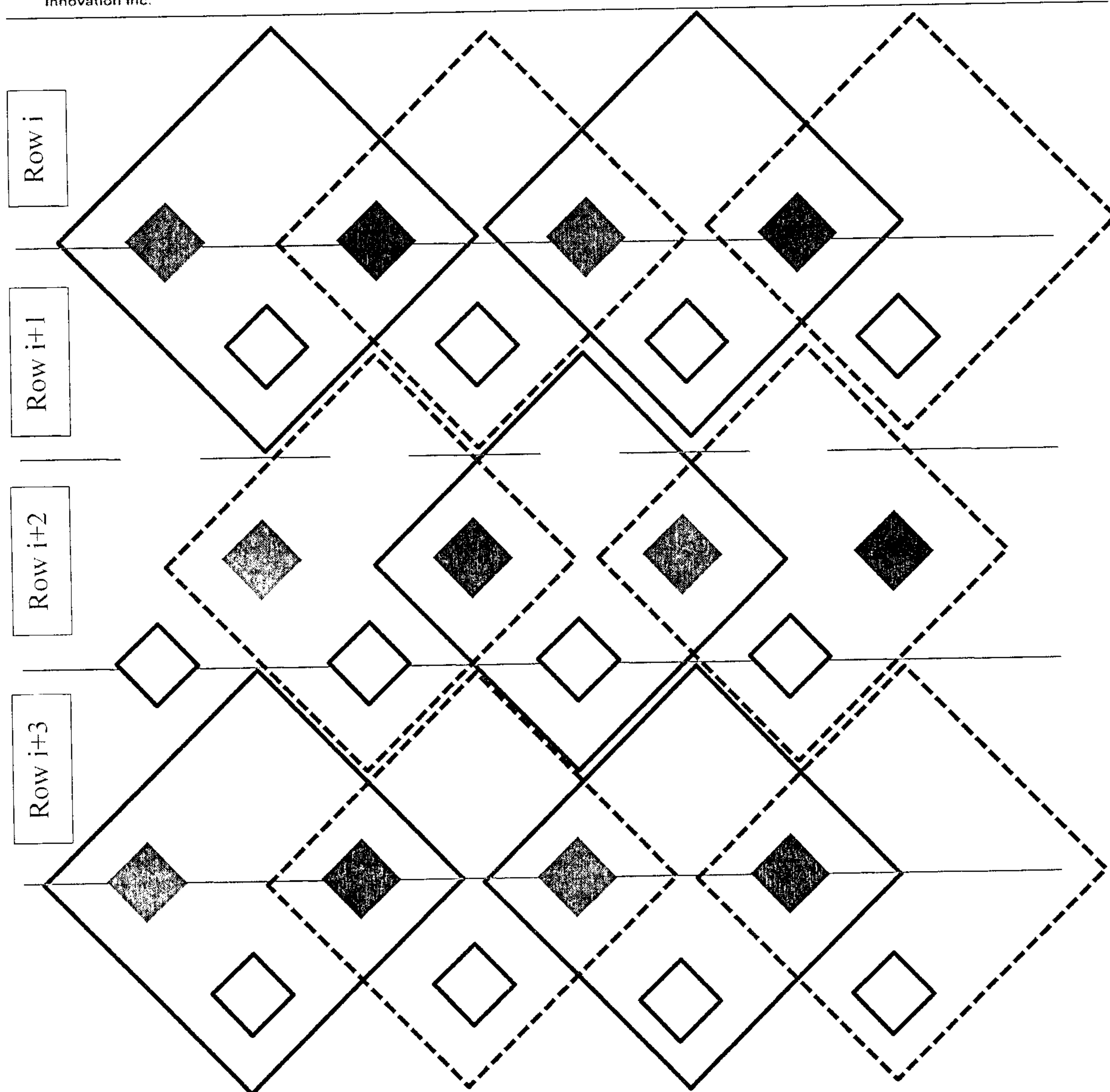


Figure 5: High resolution pixel arrangement (large squares with dash/solid lines show an example of individual pixels. However one can use different set of sub-pixel to define a pixel)

Figure 2 shows a pixel arrangement that reduces the pixel pitch in both vertical and horizontal direction for getting higher pixel density. For example, if the minimum pixel pitch for vertical direction is 'a' and for horizontal direction is 'b', the pixel pitch for the proposed pixel will be $(a^2+b^2)^{0.5}/2$. Where 'a' and 'b' are the same, the pixel pitch will be $(1/2)^{0.5}a$. Therefore, the pixel pitch will be 0.7 times of the original pixel pitch.



Here, two of the sub-pixels are shared with adjacent pixels (in this example, the red and blue are shared. However, it can be any other color).