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Extended Learning Question

* What is 'an ideal edge? How can noise impact the edge detection.

The term "ideal edge" in the context of image processing and computer vision refers to the perfect representation of an edge in an image. An ideal edge would be a line that perfectly separates the object from its Background, with no overlap or gaps. it would also have a consistent intensity gradient along its length, indicating the sharp transition b/w the objet and the Background.

Edge detection is a technique used in image processing and computer vision to identify points in a digital image at which the image brightness changes sharply or has Discontinuities.

➢ Noise can significantly impact edge detection in several ways:

① False Edges: Noise can create false edges where there are none, leading to incorrect results, Especially problematic in low contrast images.

② Edge Thining: Noise can cause edges to turn out or disappear completely

③ Increased Computational Complexity: Handling noises often increases the computational complexity of Edge detection Algorithms.