PPI (Pixels Per Inch)

- **Definition:** A measure of pixel density in digital images, indicating how many pixels are present per inch of the display or print.
- **Usage:** Used in digital imaging and printing to determine the quality and resolution of images. Higher PPI means a clearer, more detailed image.

DPI (Dots Per Inch)

- **Definition:** A measure of dot density in printed images, indicating how many individual dots of ink or toner a printer can place within one inch.
- **Usage:** Used in printing to determine the print resolution. Higher DPI means better print quality.

Sampling

- **Definition:** The process of converting a continuous signal into a discrete signal by taking periodic samples.
- **Usage:** In audio processing, it involves capturing the amplitude of sound waves at regular intervals. Higher sampling rates result in better audio quality.

Quantization

- **Definition:** The process of mapping a large set of input values to a smaller set, such as rounding off values in digital signal processing.
- **Usage:** Used in audio and image compression to reduce the amount of data required to represent the signal. Quantization introduces some level of approximation, which can affect quality.

Histograms

- **Definition:** A graphical representation of the distribution of numerical data, showing the frequency of data points within specified ranges.
- **Usage:** In image processing, histograms are used to analyze the brightness and contrast of an image. In data analysis, they help visualize the distribution of data points.