

CV Assignment # 01

IMAGE FORMATS, CHANNEL EXTRACTION, AND
LUMINOUS INTENSITY REMOVAL

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IMAGE FORMAT RESEARCH

1. JPEG / JPG

- **Full form:** Joint Photographic Experts Group
- **Type:** Raster
- **Key features:** Lossy compression, small file size, no transparency, no animation
- **Common usage:** Photos, social media images, websites

2. PNG

- **Full form:** Portable Network Graphics
- **Type:** Raster
- **Key features:** Lossless compression, supports transparency, no animation (except APNG)
- **Common usage:** Logos, icons, screenshots, web graphics.

3. GIF

- **Full form:** Graphics Interchange Format
- **Type:** Raster
- **Key features:** Lossless (limited colors), supports animation, supports transparency
- **Common usage:** Simple animations, memes, small icons

4. BMP

- **Full form:** Bitmap Image File
- **Type:** Raster
- **Key features:** Uncompressed or minimally compressed, very large size, high quality
- **Common usage:** Raw images, Windows system graphics

5. TIFF / TIF

- **Full form:** Tagged Image File Format
- **Type:** Raster
- **Key features:** Lossless or lossy, very high quality, large file size
- **Common usage:** Printing, scanning, professional photography

6. WEBP

- **Full form:** Web Picture Format
- **Type:** Raster
- **Key features:** Lossy & lossless compression, supports transparency & animation
- **Common usage:** Modern websites for faster loading

7. HEIF

- **Full form:** High Efficiency Image Format

- **Type:** Raster
- **Key features:** High compression efficiency, better quality at smaller size
- **Common usage:** Modern cameras and mobile devices

8. HEIC

- **Full form:** High Efficiency Image Container
- **Type:** Raster
- **Key features:** Based on HEIF, supports sequences and metadata
- **Common usage:** Apple devices (iPhone photos)

9. PGM

- **Full form:** Portable Gray Map
- **Type:** Raster
- **Key features:** Grayscale only, simple format, no compression
- **Common usage:** Academic, research, image processing

10. SVG

- **Full form:** Scalable Vector Graphics
- **Type:** Vector
- **Key features:** XML-based, scalable without quality loss, small size
- **Common usage:** Icons, logos, web illustrations

11. AI

- **Full form:** Adobe Illustrator Artwork
- **Type:** Vector
- **Key features:** Editable layers, high precision graphics
- **Common usage:** Professional graphic design

12. EPS

- **Full form:** Encapsulated PostScript
- **Type:** Vector (can contain raster)
- **Key features:** High-quality printing, scalable
- **Common usage:** Logos, publishing, print media

13. PDF

- **Full form:** Portable Document Format
- **Type:** Both raster & vector
- **Key features:** Preserves layout, supports images, text, vectors
- **Common usage:** Documents, eBooks, print-ready files