

Information Content Auto-Focus (ICAF)

ID: 2017-062

Executive Statement:

A revolutionary auto-focusing algorithm that enhances image sharpness by quantifying the information content of pixels.

Technology Overview:

ICAF is an innovative technology that introduces a novel mathematical function for passive auto-focusing algorithms. It quantitatively measures image sharpness by calculating the average information content (IC) across pixels. By assessing the standard deviation of these IC values, ICAF effectively determines the focus quality of an image, with higher deviations indicating greater sharpness. This method is especially adept in low-light conditions and requires minimal computational resources, bypassing the need for image pre-processing.

Key Advantages:

- Enhanced image sharpness measurement
- Effective in low-light conditions
- Adaptable to various scenes and backgrounds
- Minimal computational demand
- No need for image pre-processing

Problems Addressed:

- Quantitative measure of image sharpness
- Auto-focusing in challenging lighting conditions
- Reduction in computational resources for focusing algorithms
- Elimination of pre-processing steps like contrast enhancement

Market Applications:

- Photography software integration
- Camera auto-focus systems
- Collaborations with companies like Adobe, Nikon, and Canon