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(54) Title of the invention : METHOD AND SYSTEM FOR DIGITAL IMAGE NOISE REDUCTION IN PERSONAL COMPUTERS USING REGION-BASED ANALYSIS

(51) International classification : G06T0005000000, H04N0005210000, G06T0005200000, H04N0019170000, H04N0019117000	(71)**Name of Applicant :**
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(57) Abstract :
The present subject matter discloses a system (100) for digital image noise reduction in personal computers using region-based analysis. This system employs an input unit (102) to divide an input image into non-overlapping regions, a noise estimation unit (104) to estimate noise levels based on local pixel variance, a noise profile generation unit (106) to create noise profiles for each region, a noise reduction unit (108) to remove noise based on these profiles, and an output unit (110) to combine the noise-reduced regions into an output image ({1e}). The system's adaptability, complex noise pattern handling, computational efficiency, and user-friendly automation make it a robust solution for enhancing image quality in various applications. The system effectively reduces image noise while preserving image details and texture, enhancing image quality.

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