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LIST OF SYMBOLS AND ABBREVIATIONS

Symbols

CG\(^{-1}\) - Cloud Generator  backward
CG - Cloud Generator  forward
G - Gradient Magnitude
Θ - Gradient’s Direction
σ - Standard Deviation
* - Two Dimensional Convolution

Abbreviations

ACR - American College of Radiology
BI-RADS - Breast Imaging-Reporting And Data System
BSGI - Breast Specific Gamma Imaging
CAD - Computer Aided Detection
CADi - Computer Aided Diagnosis
CADq - CAD quantifies
CALMA - Computer Aided Library in MAmmography
CAST - Computer Aided Simple Triage
CC - CranioCaudal
CLAHE - Contrast Limited Adaptive Histogram Equalization
CLINK - Complete LINKage
CLS - CurviLinear Structures
DDSM - Digital Database for Screening Mammography
DoG - Difference of Gaussian
DWT - Directional Wavelet Transform
EM - Expectation Maximization
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>FCM</td>
<td>Fuzzy C Means</td>
</tr>
<tr>
<td>FDA</td>
<td>Food and Drug Administration</td>
</tr>
<tr>
<td>FDCT</td>
<td>Fast Discrete Curvelet Transform</td>
</tr>
<tr>
<td>FFDM</td>
<td>Full Field Digital Mammography</td>
</tr>
<tr>
<td>FN</td>
<td>False Negative</td>
</tr>
<tr>
<td>FNAC</td>
<td>Fine Needle Aspiration and Cytology</td>
</tr>
<tr>
<td>FP</td>
<td>False Positive</td>
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<tr>
<td>FPF</td>
<td>False Positive Fraction</td>
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<tr>
<td>FPI</td>
<td>False Positive Index</td>
</tr>
<tr>
<td>FROC</td>
<td>Free-response Receiver Operating Characteristics</td>
</tr>
<tr>
<td>GLHM</td>
<td>Gray Level Histogram Moments</td>
</tr>
<tr>
<td>GMI</td>
<td>Gradient Magnitude Intensity</td>
</tr>
<tr>
<td>HBCR</td>
<td>Hospital Based Cancer Registry</td>
</tr>
<tr>
<td>HIP</td>
<td>Hierarchical Image Property</td>
</tr>
<tr>
<td>HLMCCIP</td>
<td>H Lee Moffitt Cancer Center Imaging Program</td>
</tr>
<tr>
<td>HMT</td>
<td>Hidden Markov Tree</td>
</tr>
<tr>
<td>ICA</td>
<td>Independent Component Analysis</td>
</tr>
<tr>
<td>LIM</td>
<td>Local Intensity Minimum</td>
</tr>
<tr>
<td>LLNL</td>
<td>Lawrence Livermore National Laboratories</td>
</tr>
<tr>
<td>LoG</td>
<td>Laplacian of Gaussian</td>
</tr>
<tr>
<td>LRM</td>
<td>Local Range Modification</td>
</tr>
<tr>
<td>MBI</td>
<td>Molecular Breast Imaging</td>
</tr>
<tr>
<td>MDL</td>
<td>Minimum Description Length</td>
</tr>
<tr>
<td>MG</td>
<td>MammoGrid (Pan European MammoGrid)</td>
</tr>
<tr>
<td>MIAS</td>
<td>Mammographic Image Analysis Society</td>
</tr>
<tr>
<td>MLO</td>
<td>MedioLateral Oblique</td>
</tr>
<tr>
<td>MLRM</td>
<td>Modified Local Range Modification</td>
</tr>
<tr>
<td>MQSA</td>
<td>Mammography Quality Standards Act</td>
</tr>
<tr>
<td>MRI</td>
<td>Magnetic Resonance Imaging</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>MSE</td>
<td>Mean Square Error</td>
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<tr>
<td>NCRP</td>
<td>National Cancer Registry Program</td>
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<tr>
<td>PBCR</td>
<td>Population Based Cancer Registry</td>
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<tr>
<td>PEM</td>
<td>Positron Emission Mammography</td>
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<tr>
<td>PPV</td>
<td>Positive Predictive Value</td>
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<tr>
<td>PSNR</td>
<td>Peak Signal to Noise Ratio</td>
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<tr>
<td>QMF</td>
<td>Quadrature Mirror Filter</td>
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<tr>
<td>RBF</td>
<td>Radial Basis Function</td>
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<tr>
<td>RIC</td>
<td>Robust Information Clustering</td>
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<tr>
<td>ROC</td>
<td>Receiver Operating Characteristics</td>
</tr>
<tr>
<td>RoI</td>
<td>Region of Interest</td>
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<tr>
<td>RoS</td>
<td>Regions of Suspicion</td>
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<tr>
<td>SGLD</td>
<td>Spatial Gray Level Dependence</td>
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<td>SGLDM</td>
<td>Spatial Gray Level Difference Matrix</td>
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<tr>
<td>SLINK</td>
<td>Single LINKage</td>
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<tr>
<td>SVM</td>
<td>Support Vector Machine</td>
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<tr>
<td>TD</td>
<td>Two Dimensional</td>
</tr>
<tr>
<td>TD RDWT</td>
<td>Two Dimensional Redundant Dyadic Wavelet Transform</td>
</tr>
<tr>
<td>TN</td>
<td>True Negative</td>
</tr>
<tr>
<td>TP</td>
<td>True Positive</td>
</tr>
<tr>
<td>TPF</td>
<td>True Positive Fraction</td>
</tr>
<tr>
<td>TSF</td>
<td>Tree Structured non linear Filter</td>
</tr>
<tr>
<td>TSWT</td>
<td>Tree Structured Wavelet Transform filter</td>
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<tr>
<td>UCSF</td>
<td>University of California at San Francisco</td>
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<tr>
<td>USFFT</td>
<td>UnequiSpaced Fast Fourier Transform</td>
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<tr>
<td>WBA</td>
<td>Wavelet Background Approximation</td>
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<tr>
<td>WCSS</td>
<td>Within Cluster Sum of Squares</td>
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<td>WLS</td>
<td>Wavelet Linear Stretching</td>
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<td>WS</td>
<td>Wavelet Shrinkage</td>
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