

(54) Title of the invention : DISTRIBUTED VECTORS OF A NEWLY CREATED LOCAL MULTI SCALE FOURIER TRANSFORM FOR USE IN MEDICAL IMAGING

(51) International classification :A61B0008080000, G06T0007000000, A61B0005000000, A61B0005055000, A61B0006000000

(86) International Application No :NA  
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA  
Filing Date :NA

(62) Divisional to Application Number :NA  
Filing Date :NA

(71)Name of Applicant :  
**1)Dr. Rajesh L**  
 Address of Applicant :DESIGNATION: Associate Professor DEPARTMENT: Electronics & Communication Engineering COLLEGE FULL NAME: East Point College of Engineering & Technology CITY: Bengaluru STATE: Karnataka PIN CODE: 560049 rajeshlakshman.ece@eastpoint.ac.in -----  
 -----  
**2)Dr. Jayanthi Kumari T R**  
**3)Dr. Anita R**  
**4)Dr. Navya V**  
**5)Prof. Asha S**  
**6)Dr. Chandrappa D N**  
**7)Mr. Chetan S**  
**8)Mr. Vishva Kiran R C**  
**9)Mr. Kiran Kumar K**  
**10)Mrs. Radhamani R**  
 Name of Applicant : NA  
 Address of Applicant : NA  
 (72)Name of Inventor :  
**1)Dr. Rajesh L**  
 Address of Applicant :DESIGNATION: Associate Professor DEPARTMENT: Electronics & Communication Engineering COLLEGE FULL NAME: East Point College of Engineering & Technology CITY: Bengaluru STATE: Karnataka PIN CODE: 560049 rajeshlakshman.ece@eastpoint.ac.in -----  
**2)Dr. Jayanthi Kumari T R**  
 Address of Applicant :DESIGNATION: Professor DEPARTMENT: Electronics & Communication Engineering COLLEGE FULL NAME: East Point College of Engineering & Technology CITY: Bengaluru STATE: Karnataka PIN CODE: 560049 -----  
**3)Dr. Anita R**  
 Address of Applicant :DESIGNATION: Professor DEPARTMENT: Electronics & Communication Engineering COLLEGE FULL NAME: East Point College of Engineering & Technology CITY: Bengaluru STATE: Karnataka PIN CODE: 560049 -----  
**4)Dr. Navya V**  
 Address of Applicant :DESIGNATION: Associate Professor DEPARTMENT: Electronics & Communication Engineering COLLEGE FULL NAME: East Point College of Engineering & Technology CITY: Bengaluru STATE: Karnataka -----  
**5)Prof. Asha S**  
 Address of Applicant :DESIGNATION: Assistant Professor DEPARTMENT: Electronics & Communication Engineering COLLEGE FULL NAME: East Point College of Engineering & Technology CITY: Bengaluru STATE: Karnataka PIN CODE: 560049 -----  
**6)Dr. Chandrappa D N**  
 Address of Applicant :DESIGNATION: Assistant Professor DEPARTMENT: Electronics & Communication Engineering COLLEGE FULL NAME: East Point College of Engineering & Technology CITY: Bengaluru STATE: Karnataka PIN CODE: 560049 -----  
**7)Mr. Chetan S**  
 Address of Applicant :DESIGNATION: Assistant Professor DEPARTMENT: Electronics & Communication Engineering COLLEGE FULL NAME: SJM Institute of Technology, Chitradurga CITY: Chitradurga STATE: Karnataka PIN CODE: 577501 -----  
**8)Mr. Vishva Kiran R C**  
 Address of Applicant :DESIGNATION: Assistant Professor DEPARTMENT: Electronics & Communication Engineering COLLEGE FULL NAME: City Engineering College CITY: Bengaluru STATE: Karnataka PIN CODE: 560061 -----  
**9)Mr. Kiran Kumar K**  
 Address of Applicant :DESIGNATION: Assistant Professor DEPARTMENT: Electronics & Communication Engineering COLLEGE FULL NAME: East Point College of Engineering & Technology CITY: Bengaluru STATE: Karnataka PIN CODE: 560049 -----  
**10)Mrs. Radhamani R**  
 Address of Applicant :DESIGNATION: Assistant Professor DEPARTMENT: Electronics & Communication Engineering COLLEGE FULL NAME: East Point College of Engineering & Technology CITY: Bengaluru STATE: Karnataka PIN CODE: 560049 -----

(57) Abstract :  
 Distributed vectors of a newly created local Multi Scale Fourier transform for use in medical imaging ABSTRACT The present invention introduces an advanced approach in medical imaging through a novel application of a local multi-scale Fourier transform enhanced by distributed vectors. This innovative technique significantly improves the processing and analysis of medical imaging data, crucial for accurate medical diagnostics. The core of the invention lies in its unique implementation of the Fourier transform, which operates on multiple scales to capture a comprehensive range of details from medical images. The addition of distributed vectors to this process facilitates a more efficient and precise analysis, effectively handling the complex data sets typical in medical imaging modalities like MRI, CT scans, and ultrasound. The method's key advantage is its ability to enhance image clarity and resolution while maintaining computational efficiency. This results in high-quality medical images with reduced noise and artifacts, enabling clearer visualization of crucial anatomical details. The enhanced imaging capability provided by this technique is vital in improving the accuracy of diagnoses and the effectiveness of subsequent treatment plans.

No. of Pages : 14 No. of Claims : 8