(12) PATENT APPLICATION PUBLICATION

(21) Application No.202411038334 A

(19) INDIA

(22) Date of filing of Application :15/05/2024

(43) Publication Date : 31/05/2024

(54) Title of the invention : EARLY DETECTION AND CLASSIFICATION OF LUNG CANCER IN CT IMAGES USING MACHINE LEARNING

(71)Name of Applicant :
  1)Ashish Nagila
    Address of Applicant :Department of Computer Science and Engineering, IFTM University, Lodhipur Rajput Delhi Road, Moradabad, Pin 244102, Uttar Pradesh, India ----------- -----------
  2)S. Saratha
  3)Dr.M.Chitra
  4)Dr.N.Divya
  5)Dr. S. Alagendran
  6)GBSR Naidu
  7)G.Supraja
  8)Srikanth Nalluri
  9)Dr. Manisha Bhatia
  10)T.Kalai Selvi
  11)Mr. Praneta Ravindra Desale
  12)Isha Chawla
Name of Applicant : NA
Address of Applicant : NA
(72)Name of Inventor :
  1)Ashish Nagila
Address of Applicant :Department of Computer Science and Engineering, IFTM University, Lodhipur Rajput Delhi Road, Moradabad, Pin 244102, Uttar Pradesh, India ----------- -----------
  2)S. Saratha
Address of Applicant :Assistant Professor (Biochemistry), Department of Crop Management, Thanthai Roever Institute of Agriculture and Rural Development, Perambalur- 621115, Tamilnadu, India ----------- -----------
  3)Dr.M.Chitra
Address of Applicant :Assistant Professor (Biochemistry), Dr.MSS AC&RI, Echangkottai, Orathanadu, Thanjavur, 614902, Tamilnadu, India ----------- -----------
  4)Dr.N.Divya
Address of Applicant :Associate Professor in Biochemistry, RVS Agricultural College, Thanjavur - 613402, Tamilnadu, India ----------- -----------
  5)Dr. S. Alagendran
Address of Applicant :Associate Professor, Department of Biochemistry, Dhanalakshmi Srinivasan Agriculture College (Affiliated to Tamilnadu Agricultural University, Coimbatore-3), Perambalur -621212 Tamil Nadu, India ----------- -----------
  6)GBSR Naidu
Address of Applicant :Sr. Asst. Professor, Department of ECE, GMR Institute of Technology- Rajam, Vizianagaram, Andhra Pradesh, Pin -532127, India ----------- -----------
  7)G.Supraja
Address of Applicant :Asst. Professor, IT, St.Josephs College of Engineering, OMR, Chennai 600119, Chengallpet, Tamilnadu, India ----------- -----------
  8)Srikanth Nalluri
Address of Applicant :Assistant Professor, Computer Science and Engineering, Bapatla Engineering College, Bapatla-522102, Andhra Pradesh, India ----------- -----------
  9)Dr. Manisha Bhatia
Address of Applicant :Associate Professor of Pharmacy, MMCP MMDU Mullana, Ambala 133001, Haryana, India ----------- -----------
  10)T.Kalai Selvi
Address of Applicant :Associate Professor/CSE, Erode Sengunthar Engineering College, Perundurai, Erode-638057, Tamilnadu, India ----------- -----------
  11)Mr. Praneta Ravindra Desale
Address of Applicant :Dahivel, Dhule, Maharashtra, India ----------- -----------
  12)Isha Chawla
Address of Applicant :Assistant Professor, MM College of Pharmacy, MM Deemed to be University, Mullana, Ambala, Haryana, 133207, India ----------- -----------

(51) International classification : G06N0020000000, G16H0050300000, G06T0007000000, G06N0003080000, G16H0050200000
(86) International Application No
    Filing Date :NA
    :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number
    Filing Date :NA
    :NA
(62) Divisional to Application Number
    Filing Date :NA
    :NA

(57) Abstract :
The invention relates to a system and method for the early detection and classification of lung cancer in CT images through the application of machine learning methodologies. By integrating advanced image processing techniques with deep learning algorithms, the system automates the analysis of CT scans, accurately identifying suspicious regions indicative of lung cancer at an early stage. Leveraging a combination of data preprocessing, feature extraction, and machine learning-based classification, the system enhances the efficiency and accuracy of lung cancer diagnosis, facilitating timely interventions and improving patient outcomes. Additionally, the system's user-friendly interface empowers healthcare professionals with intuitive tools for visualizing analysis results and making informed treatment decisions, marking a significant advancement in medical imaging technology with the potential to revolutionize lung cancer management strategies.

No. of Pages : 17 No. of Claims : 7