

(54) Title of the invention : EARLY AND ACCURATE PREDICTION OF KIDNEY DISEASES USING ALGORITHMS OF DEEP LEARNING

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(71)Name of Applicant :  
**1)Madan Mohan Tito Ayyalasomayajula**  
 Address of Applicant :Independent Researcher, Aspen University, AZ, USA. -----  
**2)D.Sathiya**  
**3)Dr Smeeta Sadar**  
**4)Saranya.S**  
**5)Athulya S**  
**6)Rakhee Patil**  
**7)R.Priya**  
**8)Dr.S.Gowri**  
**9)Mr. Bimal Debbarma**  
**10)Saranya. N**  
**11)Venkataramanan.S**  
**12)Srikanth Salyan**  
**13)Dr. L.Karthick**  
 Name of Applicant : NA  
 Address of Applicant : NA  
 (72)Name of Inventor :  
**1)Madan Mohan Tito Ayyalasomayajula**  
 Address of Applicant :Independent Researcher, Aspen University, AZ, USA. -----  
**2)D.Sathiya**  
 Address of Applicant :Assistant Professor Department of Computer Science and Engineering, PPG Institute of Technology, Coimbatore, Tamil Nadu, India. -----  
**3)Dr Smeeta Sadar**  
 Address of Applicant :Associate professor, Department of Pharmacology, Dr D Y Patil college of pharmacy, Akurdi Pune, Maharashtra, India. -----  
**4)Saranya.S**  
 Address of Applicant :Assistant Professor Department of Computer Science and Engineering, PPG Institute of Technology, Coimbatore, Tamil Nadu, India. -----  
**5)Athulya S**  
 Address of Applicant :Assistant Professor , Department of Computer Science and Engineering, Christ University, Kengeri, Karnataka, India. -----  
**6)Rakhee Patil**  
 Address of Applicant :Associate Professor, Department of Electronics and Communication Engineering, Rao Bahadur Y. Mahabaleswarappa Engineering College, Cantonment, Ballari, Karnataka, India. -----  
**7)R.Priya**  
 Address of Applicant :Assistant Professor Department of Computer Science and Engineering, Pollachi Institute of Engineering and Technology, 107/1b Poosaripatti, Pollachi Taluk, Coimbatore District, Tamil Nadu 642205, India. -----  
**8)Dr.S.Gowri**  
 Address of Applicant :Assistant Professor Department of Mathematics SNS College Of Technology, Coimbatore, Tamil Nadu, India. -----  
**9)Mr. Bimal Debbarma**  
 Address of Applicant :Assistant Professor Department of Pharmacy, Institute of Pharmacy Assam Don Bosco University, Sonapur, Tapesia, Assam, Pin No. -782402, India. -----  
**10)Saranya. N**  
 Address of Applicant :Assistant Professor, Department of Artificial Intelligence and Data Science, Karpagam College of Engineering, Coimbatore, India. -----  
**11)Venkataramanan.S**  
 Address of Applicant :Senior Lecturer, Department of Diagnostic and Allied Health Science, Faculty of Health and Life Science, Management and Science University, shah Alam, Malaysia 40100. -----  
**12)Srikanth Salyan**  
 Address of Applicant :Assistant Professor Department of Aeronautical Engineering, Dayananda Sagar of Engineering, Karnataka, India. -----  
**13)Dr. L.Karthick**  
 Address of Applicant :Assistant Professor Department of Mechanical Engineering, Hindusthan College of Engineering and Technology, Valley Campus, Pollachi Highway, Coimabore - 641 032, Tamil Nadu, India. --

(57) Abstract :

EARLY AND ACCURATE PREDICTION OF KIDNEY DISEASES USING ALGORITHMS OF DEEP LEARNING The method for the development of the researchers all around the world employ glomerular filtration rate (GFR) and kidney damage indicators to determine CKD, which is a disorder that causes decreasing renal function over time. A person with CKD has a greater risk of dying young. Doctors confront a tremendous challenge in recognizing the various disorders associated with CKD at an early stage in order to avoid the disease. The constructed models are compared using several performance matrices, error measurements, loss values, AUC values, and compilation time to choose the best competent model for CKD classification. Overall, optimized models outperform conventional models. We close the gap between current detection methods and preventive interventions by developing and comparing deep learning models such as CNN, LSTM, and LSTM-BLSTM for 6-12 month CKD prediction; addressing data imbalance, feature selection, and optimizer optimization; and constructing an ensemble model combining the best individual models (CNN-Adamax, LSTM-Adam, and LSTM-BLSTM-Adamax). FIG.1

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