

(54) Title of the invention : ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING BASED DETECTION AND PREVENTION OF MALARIAL PARASITES IN BLOOD USING CNN-DEEP LEARNING ALGORITHMS FOR HEALTH CARE MANAGEMENT SYSTEMS

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(71)Name of Applicant :
1)Dr. Gaurav Srivastava
 Address of Applicant :Guest Faculty, Department of Electronics and Communication, University of Allahabad, Prayagraj, Uttar Pradesh – 211002, India -----
2)Mr. S. Balasubramanian
3)Dr.Punit Kumar Singh
4)A.Arun
5)Lakshmi S
6)Sri Raman Kothuri
7)Dr Seema Yadav
8)S.Gnanamurthy
9)K Raja Sekhar
10)Dr M Thillaikarasi
 Name of Applicant : NA
 Address of Applicant : NA
 (72)Name of Inventor :
1)Dr. Gaurav Srivastava
 Address of Applicant :Guest Faculty, Department of Electronics and Communication, University of Allahabad, Prayagraj, Uttar Pradesh – 211002, India -----
2)Mr. S. Balasubramanian
 Address of Applicant :Assistant Professor in Computer Science, Centre for Distance and Online Education, Alagappa University, Alagappa puram, Karaikudi. Sivaganga Tamilnadu India -----
3)Dr.Punit Kumar Singh
 Address of Applicant :Assistant Professor, Bioengineering Department, Integral University Kursi Road, Dausali Lucknow Lucknow Uttar Pradesh India -----
4)A.Arun
 Address of Applicant :Assistant professor, Department of Computer science and engineering, Karpaga vinayaga college of engineering and technology / Anna University, GST Road,Chinna Kolambakkam,Padalam, Chengalpet,d.603308 Tamilnadu India -----
5)Lakshmi S
 Address of Applicant :Assistant Professor, Department of Computer Science, St Joseph's College of engineering , OMR, Chennai 119 Tamilnadu India -----
6)Sri Raman Kothuri
 Address of Applicant :Assistant Professor, Department of Computer Science and Engineering, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai-600 062, Tamil Nadu, India -----
7)Dr Seema Yadav
 Address of Applicant :Principal, Department of Community Health Nursing, College of Nursing Sarojini Naidu College of Nursing Govt, Sarojini Naidu Medical College Campus Moti Katra, Mantola Pincode 282002 Agra Uttar Pradesh India -----
8)S.Gnanamurthy
 Address of Applicant : Assistant Professor , Department of Computer Science And Engineering , Kuppam Engineering College , Kes Nagar, Kuppam, Chittoor-517425, Andhra Pradesh, India. -----
9)K Raja Sekhar
 Address of Applicant :Assistant Professor, Department of AI, Shri Vishnu Engineering College for Women, Bhimavaram West Godavari District, Andhra Pradesh India -----
10)Dr M Thillaikarasi
 Address of Applicant :Assistant Professor, Department of Computer Science & Engineering, Annamalai University, Chidambaram Cuddalore Tamilnadu, India -----

(57) Abstract :
 Artificial Intelligence and Machine Learning based Detection and prevention of Malarial Parasites in Blood using CNN-Deep Learning Algorithms for Health care Management Systems ABSTRACT: According to the most recent data published by the World Health Organization (WHO), there has been a notable increase in the incidence of malaria cases, reaching a total of 219 million cases in the previous year. This figure represents a rise of two million instances compared to the preceding year. The progress in worldwide malaria control has reached a stagnation point, primarily attributed to a drop in international funding. Malaria, a disease transmitted to individuals via the bites of female mosquitoes carrying the infection, is prevalent in 91 countries. However, it is noteworthy that almost 90% of the reported cases and fatalities are concentrated within the sub-Saharan African region. Last year, a significant number of individuals, primarily children under the age of five in Africa, succumbed to the disease, resulting in a total of 435,000 fatalities. The utilization of AI-supported technology has brought about a significant transformation in the identification of malaria within certain regions of Africa. The potential future implications of this study are poised to be revolutionary. The malaria Cell Image Data-set is sourced from the official National Institutes of Health (NIH) website, specifically the NIH data repository. The primary objective of gathering the information was to alleviate the workload for microscopists in places with limited resources and enhance the precision of diagnosis through the utilization of an artificial intelligence (AI) algorithm capable of detecting and segmenting red blood cells. The objective of this study is to demonstrate that high levels of accuracy may be achieved by employing a two-layer convolutional network. Additionally, this research aims to establish a novel benchmark in the field of Malaria detection through the utilization of artificial intelligence techniques.

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