(54) Title of the invention : Enhancing Retinal Disease Diagnosis through Deep Learning-Based Blood Vessel Segmentation in Fundus Images

(51) International classification :G06N0003080000, G16H0050200000, G06T0007000000, G06N0003045000, A61B0003120000	(71)**Name of Applicant :** **1)Malla Reddy Engineering College** Address of Applicant :Dhulapally post via Kompally Maisammaguda Secunderabad -500100 Secunderabad ----------- ----------- **2)Dr.Ramu Vankudoth** **Name of Applicant : NA** **Address of Applicant : NA** (72)**Name of Inventor :**
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(57) Abstract :
This paper introduces a pioneering approach utilizing deep learning algorithms for the segmentation of retinal blood vessels in fundus images, aiming to advance disease diagnosis in ophthalmology. By integrating cutting-edge neural network architectures, the proposed method effectively harnesses shape and size information, optimizing the utilization of available samples and surpassing conventional segmentation techniques. Through extensive experimentation, our approach demonstrates superior accuracy in detecting retinal abnormalities compared to assessments by skilled ophthalmologists. Moreover, our model showcases robustness in handling variations in image quality and pathological manifestations, exhibiting potential for real-world clinical applications. The integration of deep learning not only enhances segmentation accuracy but also enables automated analysis, thereby reducing the burden on healthcare professionals and facilitating timely intervention. This research contributes to the ongoing efforts in leveraging artificial intelligence for improving diagnostic accuracy and efficiency in ophthalmology, ultimately enhancing patient outcomes and the quality of care in retinal disease management.

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

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :20/11/2024

(21) Application No.202441090186 A

(43) Publication Date : 29/11/2024

(54) Title of the invention : UTILIZING THE BLOCKCHAIN TECHNOLOGY TO AMPLIFY CERTIFICATE VALIDATION IN EDUCATION

(51) International classification	:H04L0009320000, H04L0009000000, H04L0009400000, H04L0009060000, G06F0021640000
(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

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(57) Abstract :
Nowadays, verifying the genuineness of educational certificates can be a hard task since most documents are fake. Common methods employed for certificate verification are not always transparent or secure or efficient. In contrast, blockchain technology is a decentralized system that cannot be changed. This study delves into the feasibility and implications of harnessing blockchain technology to enhance certificate verification within the education sector. As fake educational certificates proliferate, existing verification methods often fall short in terms of transparency, security, and efficiency. Blockchain, as a decentralized and immutable ledger, offers promising solutions to address these challenges. Through a comprehensive literature review, case studies analysis, and stakeholder perspectives, this research investigates the merits, demerits, and implementation challenges of blockchain-based certificate verification. Findings reveal that blockchain technology holds significant potential to revolutionize certificate validation by enhancing transparency, security, and efficiency. However, challenges such as technical barriers, regulatory constraints, and adoption hurdles must be carefully navigated. The study concludes with recommendations for further research and practical implications for stakeholders in the education sector, emphasizing the transformative impact of blockchain technology on certificate verification processes.

No. of Pages : 6 No. of Claims : 9