

AI-Powered Healthcare for Streamlined Patient Management and Enhanced Diagnostics for Brain Tumour

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Abstract: *The AI-Powered Healthcare for Streamlined Patient Management and Enhanced Diagnostics for brain tumour platform introduces a cutting-edge solution that incorporates Artificial Intelligence (AI) into holistic healthcare administration. It facilitates essential tasks such as digital patient onboarding, appointment coordination, and encrypted access to medical records, offering a seamless and centralized approach tailored to the needs of today's medical environments. A standout component of the system is its AI-based diagnostic functionality. In this process, medical practitioners upload MRI images, which are then processed in real time through Convolutional Neural Networks (CNN) to extract critical features, followed by classification using Support Vector Machines (SVM). The diagnostic output supports clinicians in delivering accurate assessments and effective treatment plans. To maintain data security and integrity, all patient information and AI-generated results are securely stored in a MySQL database. Performance assessments indicate that the diagnostic model attained a 93% accuracy rate, demonstrating its capability to deliver precise and timely medical evaluations. Overall, the system marks a meaningful advancement in improving diagnostic reliability, streamlining operations, and fostering a more patient-focused approach to healthcare*

Keywords: Artificial Intelligence (AI), Healthcare Management, Diagnostic Automation, MRI Scan Analysis, Convolutional Neural Networks (CNN), Support Vector Machine (SVM), Medical Image Processing

