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(54) Title of the invention : A COGNITIVE INSIGHT SYSTEM FOR ENHANCING EXPLAINABILITY IN DEEP LEARNING MODELS

<p>(51) International classification :G06N0003040000, G06N0005040000, G06N0003080000, G06N0010000000, G06N0020000000</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : 1)CMR COLLEGE OF ENGINEERING & TECHNOLOGY Address of Applicant :KANDLAKOYA, MEDCHAL ROAD, HYDERABAD, TELANGANA, INDIA, 501401. Hyderabad ----- 2)CMR TECHNICAL CAMPUS 3)CMR INSTITUTE OF TECHNOLOGY Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor : 1)Dr. J. Sasi Bhanu Address of Applicant :Professor Computer Science and Engineering CMR College of Engineering & Technology KANDLAKOYA, MEDCHAL ROAD, HYDERABAD, TELANGANA, INDIA, 501401 Hyderabad ----- 2)Mr. Ch. Sankara Rao Address of Applicant :Assistant Professor Computer Science and Engineering CMR College of Engineering & Technology KANDLAKOYA, MEDCHAL ROAD, HYDERABAD, TELANGANA, INDIA, 501401 Hyderabad ----- 3)Dr. T. Bhaskar Address of Applicant :Associate Professor Computer Science and Engineering CMR College of Engineering & Technology KANDLAKOYA, MEDCHAL ROAD, HYDERABAD, TELANGANA, INDIA, 501401 Hyderabad ----- 4)G Aravind Address of Applicant :Assistant Professor CMR TECHNICAL CAMPUS Computer Science and Engineering KANDLAKOYA VILLAGE, MEDCHAL MANDAL, R. R DISTRICT, HYDERABAD 501401 TELANGANA, INDIA Hyderabad ----- 5)Md Shareef Address of Applicant :Assistant Professor CMR TECHNICAL CAMPUS Computer Science and Engineering KANDLAKOYA VILLAGE, MEDCHAL MANDAL, R. R DISTRICT, HYDERABAD 501401 TELANGANA, INDIA Hyderabad ----- 6)Bushra Tarannum Address of Applicant :Assistant Professor CMR TECHNICAL CAMPUS Computer Science and Engineering KANDLAKOYA VILLAGE, MEDCHAL MANDAL, R. R DISTRICT, HYDERABAD 501401 TELANGANA, INDIA Hyderabad ----- 7)Kotte Venkata Balamurali Krishna Address of Applicant :Assistant Professor CMR Institute of Technology Computer Science and Engineering KANDLAKOYA VILLAGE, MEDCHAL MANDAL, R. R DISTRICT, HYDERABAD 501401 TELANGANA, INDIA Hyderabad ----- 8)Kilari Rampriya Address of Applicant :Assistant Professor CMR Institute of Technology Computer Science and Engineering KANDLAKOYA VILLAGE, MEDCHAL MANDAL, R. R DISTRICT, HYDERABAD 501401 TELANGANA, INDIA Hyderabad -----</p>
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(57) Abstract :
A COGNITIVE INSIGHT SYSTEM FOR ENHANCING EXPLAINABILITY IN DEEP LEARNING MODELS ABSTRACT The disclosed cognitive insight system 100 enhances explainability in deep learning models by employing a quantum-based architecture 108 to analyze and interpret decision-making processes. Leveraging quantum computing principles, the system 100 extracts cognitive insights, offering a comprehensive understanding of the intricate thought processes within deep learning models. The method involves generating interpretable explanations for model outcomes, presented in a human-understandable format to improve transparency and comprehension. This approach facilitates user interaction and feedback, allowing iterative refinement of the cognitive insight system 100. The system 100 further supports features such as data preprocessing, feedback loop mechanisms, quantum entanglement principles, visualization modules, and security measures. Overall, this innovative system contributes to advancing the interpretability of deep learning models, promoting transparency and aiding users in comprehending complex decision-making mechanisms. FIG. 1

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