

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202611037446 A

(19) INDIA

(22) Date of filing of Application :26/03/2026

(43) Publication Date : 08/05/2026

(54) Title of the invention : A NEURO-SYMBOLIC COMPUTING ARCHITECTURE FOR ROBUST AI INFERENCE

(51) International classification	:G06N 5/04, G06N 3/04, G06N 3/08, G06N 5/02, G06N 20/00	(71)Name of Applicant : 1)NOIDA INSTITUTE OF ENGINEERING & TECHNOLOGY Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
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(86) International Application No	:	
Filing Date	:01/01/1900	
(87) International Publication No	: NA	
(61) Patent of Addition to Application Number	:NA	
Filing Date	:NA	
(62) Divisional to Application Number	:NA	
Filing Date	:NA	

(57) Abstract :

A neuro-symbolic computing architecture for robust artificial intelligence inference is disclosed. The architecture includes an input assimilation module (101), a feature encoding module (102), a neural inference engine (103), a semantic mapping interface (104), a symbolic reasoning core (105), a decision governance module (106), a trace generation module (107), and an output interface (108). Runtime data is normalized, encoded, converted into candidate hypotheses, translated into symbolic assertions, checked against explicit knowledge, and synthesized into a governed inference result. The architecture improves robustness, traceability, and controlled decision behavior under uncertain and shifting conditions.

No. of Pages : 24 No. of Claims : 7