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(57) Abstract :
NUTAAN H-RAM: HUMANIZED REASONING AND MEMORY ARCHITECTURE FOR ENTERPRISE AI SYSTEMS The present invention discloses Nutaan H-RAM, a Humanized Reasoning and Memory Architecture engineered for enterprise-grade artificial intelligence systems. This unified framework integrates contextual memory simulation, logical reasoning engines, and memory-efficient computational strategies to mimic human-like cognitive behavior in AI-driven environments. The architecture comprises modular components for hierarchical memory management (short-term, long-term, and episodic), goal-driven multi-step reasoning, dynamic self-correction, and student-teacher model distillation to enable scalable, cost-effective deployments. Nutaan H-RAM further embeds a secure and compliant infrastructure featuring role-based access control, advanced encryption standards, and audit logging aligned with industry regulations such as HIPAA, SOC2, and GDPR. Its design emphasizes ethical AI development, ensuring transparency, auditability, and domain-specific adaptability. The system is optimized for real-time responsiveness and supports diverse enterprise applications including diagnostic assistance, legal compliance verification, financial analytics, and knowledge discovery in research. Through this invention, enterprises are empowered to deploy intelligent AI systems that deliver high-precision, explainable, and context-aware outputs while maintaining rigorous compliance and data integrity. FIG.1

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