



A Review On Bridging Timeless Wisdom With Tomorrow's Intelligence From Sanskrit Syntax To Symbolic AI Era

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Abstract: This paper presents an extensive review of seminal contributions at the intersection of ancient Indian philosophy and artificial intelligence (AI), with a particular emphasis on cognitive science, natural language processing and mental health. Anchored in both classical epistemological systems and emerging AI frameworks. The reviewed literature spans from metaphysical interpretations of Sanskrit grammar and Vedic knowledge systems to advanced computational methods like large language models and deep learning. The paper documents the evolution from philosophical abstraction to technological implementation, highlighting the integration of symbolic knowledge systems, ethical AI, and computational linguistics rooted in Indian tradition. The review concludes by emphasizing the enduring relevance of ancient wisdom in addressing contemporary challenges in AI, ethics, and cognitive modelling.

Keywords: Sanskrit, Artificial Intelligence, Cognitive Science, Bhagavad Gita, NLP, Vedanta, Knowledge Representation

1. Introduction

The rapid advancement of artificial intelligence (AI) and cognitive science has stimulated a renewed interest in philosophical and linguistic traditions that possess structured knowledge systems. Among these, ancient Indian philosophy—especially as encapsulated in texts like the Upanishads, Bhagavad Gita, and classical Sanskrit grammar—offers profound insights into the nature of consciousness, cognition, ethics, and linguistic expression. Sanskrit, with its algorithmic grammar crafted by Panini, presents a rule-based linguistic system that aligns closely with modern symbolic logic and computational linguistics (Brahmacari, 2024). Similarly, the philosophical frameworks of Vedanta, Yoga, and Mimamsa propose models of mind, self, and perception that mirror contemporary explorations in neuroscience, AI modelling, and behavioural psychology (Ramabrahman, 2016). This paper explores the chronological progression of scholarly work that bridges these ancient insights with modern scientific and technological paradigms. Through detailed examination of significant contributions from 2012 to 2025, the review highlights how interdisciplinary efforts have synthesized classical Indian epistemology with AI applications, offering transformative possibilities for ethical, cognitive, and computational domains.

2. Methodology

This review paper adopts a qualitative, chronological methodology to trace the scholarly evolution in integrating ancient Indian philosophy with modern artificial intelligence (AI) and cognitive science. Primary and secondary sources were identified using targeted searches in academic databases such as IEEE Xplore, SpringerLink, arXiv, and Google Scholar. The inclusion criteria were based on the presence of either conceptual overlap (e.g., cognitive models, ethics, logic) or technical applications (e.g., natural language processing, deep learning) linking Sanskrit texts, Indian philosophical traditions, or the Bhagavad Gita with modern computational or psychological frameworks. The period of review spans from 2008 to 2025, with an emphasis on peer-reviewed articles, institutional publications, and preprints that demonstrate interdisciplinary synthesis. Each contribution was analysed with respect to its philosophical grounding, AI application, and cognitive relevance, allowing for a chronological narrative of the field's development.

3. Future Research Directions

This interdisciplinary review demonstrates a growing synergy between ancient Indian philosophical frameworks and modern AI technologies. However, several promising directions remain open for exploration:

- Developing formal ontologies for Sanskrit texts to improve AI interpretability.
- Implementing Vedantic and Mimamsa principles in neural-symbolic architectures.
- Expanding multilingual large language models for underrepresented Indian languages.
- Designing mental health applications grounded in Yogic and Gita-based mindfulness practices.
- Creating explainable AI systems modelled on Dharmic ethical reasoning. Future research in these areas will not only advance AI but also ensure it aligns with inclusive, human-centric values rooted in timeless traditions.

4. Extensive Literature Review

4.1. Early Philosophical Groundwork (2011–2012)

- **Judith S. Beck (2011)** contributed a foundational psychological framework through her work on Cognitive Behaviour Therapy (CBT), which complements Indian philosophical models of mental regulation and awareness.
- **A. Joshi (2012)** reinterpreted the Bhagavad Gita as a text rich in psychological insights, especially focusing on cognitive transformation and emotional conflict, aligning with modern behavioural therapy principles.

4.2. Vedantic-Cognitive Correlation (2008–2016)

- **Dr. Varanasi Ramabrahman (2008, 2016)** provided critical insights by aligning Vedantic concepts—such as Brahmajñāna, Sabdabrahma, and Advaita—with scientific models of mind and cognition. His work explained mental states, cognition phases, and communication processes using the framework of ancient Indian philosophy.

4.3. Structural Linguistics and AI (2024)

- **Srivas Krishna Das Brahmachari (2024)** explored how Sanskrit's precise grammatical structure, as codified by Panini, can serve as an ideal base for symbolic AI, rule-based NLP systems, and knowledge representation models.

4.4. Semantic and Sentiment Analysis in Scriptures (2022)

- **Rohitash Chandra and Venkatesh Kulkarni (2022)** implemented BERT-based frameworks to semantically and emotionally analyse multiple translations of the Bhagavad Gita, demonstrating convergence of linguistic AI with spiritual texts.

4.5. Topic Modelling in Hindu Philosophy (2022)

- **Chandra and Mukul Ranjan (2022)** conducted topic modelling using LDA and S-BERT across the Bhagavad Gita and Upanishads, revealing the deep thematic connections and enabling machine-aided philosophical classification.

4.6. Ethical AI and Scriptural Morality (2024)

- **Saurabh Shukla and Dr. Prabhat Dwivedi (2024)** highlighted the relevance of values like Dharma and Ahimsa from ancient texts as foundational ethical frameworks for sustainable AI design.

4.7. NLP and Mindfulness Analysis (2025)

- **Manali Pare Guha and Omkar Pattnaik (2025)** built NLP systems to map mindfulness states like awareness and tranquillity in the Gita, contributing to AI-based mental wellness tools.

4.8. LLMs and Spiritual QA Systems (2025)

- **Om Soni et al. (2025)** developed Vivechan AI, an LLM-based multilingual QA platform, enabling interpretive access to ancient scriptures such as the Ramayana and Bhagavad Gita, enhancing personalized spiritual understanding.

4.9. Vedic Epistemology and Modern Cognition (2024)

- **Nguyen Le Thy Thuong and Made Gami Sandi Untara (2024)** correlated Vedic models of knowledge (Pramana) with modern theories of cognition and consciousness, offering a cross-temporal view of information acquisition and processing.

4.10. Therapeutic Applications of the Gita (2025)

- **Ganesh Pardhe (2025)** examined how Gita's concepts like Samskaras, Karma Yoga, and meditation intersect with CBT and modern psychology to aid in anxiety and stress management.

4.11. Integrated Psychological Frameworks (2024)

- **Deshna Chatterjee (2024)** analysed Gita's teachings on Atman, consciousness, and ethical decision-making in the context of psychological resilience and emotional regulation, integrating Eastern wisdom with Western models.

5. Discussion

The reviewed works show how Sanskrit grammar, Vedantic philosophy, and the *Bhagavad Gita* provide structured models that align with symbolic AI and cognitive science. While these contributions highlight strong conceptual and ethical frameworks, most remain **theoretical with limited empirical validation**. Translation bias and underrepresentation of regional languages also limit NLP-based studies. Nevertheless, the integration of Dharmic ethics, cognitive models, and NLP applications demonstrates significant potential for **responsible AI and cross-cultural mental health tools**, provided future work emphasizes validation and real-world implementation.

6. Conclusion

This review underscores the profound intersections between ancient Indian philosophical traditions and modern artificial intelligence research. From the foundational insights of Vedantic cognition and Paninian grammar to advanced computational techniques such as deep learning and large language models, scholars have demonstrated that timeless spiritual and epistemological systems continue to inform contemporary inquiries into consciousness, language, and ethical design. The chronological synthesis reveals a growing recognition of the relevance of scriptural wisdom in guiding responsible AI development, enhancing psychological well-being, and enriching symbolic reasoning. As the boundaries between humanities and technology blur, the integration of classical Indian thought with cognitive and computational sciences offers a compelling paradigm—where technological innovation is harmonized with introspective depth and ethical clarity.

7. Limitations

This review is limited by its focus on English-language sources, possible omission of regional works, and reliance on translated Sanskrit texts that may introduce semantic bias. The scope is confined to 2008–2025 studies, with an emphasis on AI and psychology while overlooking some linguistic and anthropological perspectives. Moreover, many reviewed works remain conceptual, lacking large-scale empirical validation.

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