

ISSN 2063-5346



CLUSTERING THE PHILOSOPHIES OF UPANISHADS AND BHAGAVAT GITA THROUGH ARTIFICIAL INTELLIGENCE

Dr. Deepika Dhand and Abinash Kumar Singh

Article History: Received: 01.02.2023

Revised: 07.03.2023

Accepted: 10.04.2023

Abstract

There is a distinct feature of Hindu religious and philosophical texts that are written by several readers rather than by one individual. The Upanishads are considered one of the world's oldest philosophical texts that form the foundation of Hindu philosophy. Philosophy begins with the Bhagavad Gita, the core text of Hinduism. The text summarizes the critical philosophies of the Upanishads with a strong focus on 'Karma'. These texts have been translated into many languages and there exist studies about themes and topics that are prominent; however, there are not many studies of topics modeling using language models which are powered by deep learning. In this study, we have analyzed the distinct and overlapping topics among the readers and compared selected texts of the Upanishads with the Bhagavad Gita. Using deep learning AI methods, we analysed English translations of the Bhagavad Gita. Bhagavat Gita – the song of the Lord is used as the input data. In this study, deep **neural networks** are used for training, where input data after data processing and analysis is passed to neural network, which then performs self-tuning to improve the model. In this work, a deep neural network is used for training where input data is passed to neural network after data analysis and processing which then performs auto-tuning that helps to make this model better.

The Sanskrit versions of these texts were written much later in verse form. As such, they have been sung and remembered for thousands of years in the absence of a writing system. The Bhagavad Gita is part of the Mahabharata, which is one of the oldest and largest epics written in verse form in the Sanskrit language. Bhagavad Gita is known as a concise summary of Hindu philosophy with a major focus on the concept of 'Karma'. Indian philosophy and history are rooted in the Upanishads, a collection of philosophical texts from ancient India. There are 108 Upanishads, which has its importance thousands of years ago.

The essence of the Upanishad is embedded in the **Brahma Sutra** which is known to be the eternal everlasting **philosophy of universal truth**. Both the *Bhagavat Gita* and the *Upanishads* are originally presented in the Sanskrit language. The grammar words and language are an influence of the ancient culture and heritage,

The flow of information has been recorded, enhanced and arranged with help of artificial intelligence, analysing and reaching the conclusion that absolute truth does not restrict itself to any particular 'sampradaya' (section of society). This paper validates deep neural network which is used for training the input data through auto – tuning and processing.

Keywords: Upanishad, Deep Neural Network, Bhagavat Gita, Artificial Intelligence, Deep learning.

MATS University Raipur (C.G), deepikadhand@ymail.com, abinashmats@gmail.com

DOI: 10.31838/ecb/2023.12.s1-B.139

Bhagavat Gita

The Bhagavat Gita is essentially a “question and answer” dialogue about every aspect of life, between the first-person Lord Krishna, and the second-person warrior prince Arjuna. The dialogue is seen and heard telepathically by the third person, the advisor and charioteer Sanjaya, who narrates the story to the fourth person, the blind King Dhritarashtra. The Bhagavat Gita enunciates a very lively conversation between the warrior prince, Arjuna, and Lord Krishna about every aspect of life. It takes place prior to the outbreak of the Mahabharata War, which was fought between two families, the Pandavas and Kauravas, on the battlefield of Kurukshetra. Kurukshetra is the region of the Kuru Dynasty. There is no mention of the Atharva Veda in the Gita. The Bhagavad Gita only mentions the first three Vedas: Rig Veda, Yajur Veda, and Sama Veda.

With artificial intelligence (AI) methods such as neural networks and machine learning, scientists and engineers can predict how each verse in the Bhagavat Gita and the Upanishad is suitable to the daily life in society. To begin this exploration, we analyzed English translations of the Bhagavad Gita using deep learning artificial intelligence methods. Sanskrit is the language of this ancient Hindu text. Using neural networks, machines can now identify objects, interact with humans, and understand texts like humans. As we know, the brain is the most significant and unexplored part of our body. Neuroscientists are still figuring out how memories are recalled, emotions are perceived and processed in our brain. According to the Bhagavad Gita, humans are not just made up of the brain. The Shloka defines the brain as an abstraction of intelligence, and intelligence as an abstraction of consciousness. As humans, we can see and hear things instantly, walk and exercise instantly, and do all sorts of things. They are nothing but inputs from the sensory system, calculating them, and

sending the signals to the muscles through them, which almost any robot can do these days because it's just a computational task.

The Mahabharata tells the story of the war between the Pandavas and the Kauravas. It is 220,000 verse long, divided into **eighteen Parvas, or chapters**. It is longer than Homer's *Odyssey*, and it consists of episodes, dialogues, stories, discourses, and sermons. There are many epics within this one. One of them is the Bhagavad Gita.

The Bhagavad Gita is essentially the “essence of the Vedas”. In a nine – verse poem often attached to the Bhagavad Gita is the “**Gita Dhyanam**” (the invocation to the Gita), it is stated “If all Upanishads can be considered as cows; Then the Bhagavad Gita can be considered as milk.” The “**Gita Dhyanam**” is not a part of the main Bhagavad Gita, but it is commonly published along with the Bhagavad Gita as a Preface. According to Swami Chinmayanada, “**Gita Dhyanam**” was written by the Indian philosopher **Madhusudana Sarasvati** (1540 - 1640). Some compare the Bhagavad Gita to the Sermon on the Mount and the Buddhist Dhammapada. But unlike these scriptures, the Gita is written in a question-and-answer format observed and directed by machine learning, and it deals with its subject matter in a different way. The Bhagavat Gita appears in the **Bhishma Parva** (literally, the chapter of Bhishma) of the historical epic the Mahabharata.

The very first English translation of the Bhagavat Gita was written by Sir Charles Wilkins in 1785, with an introduction by Warren Hasting, the first Governor General of India. But the most popular English translation was written by Sir Edwin Arnold, under the title *The Sone of Celestial*.

The Bhagavad Gita has an answer to every problem a man or a woman may face in his or her life difficulties and obstacles. Bhagavad Gita gives each one of us absolute freedom to do whatever we

want. In the Bhagavad Gita, Lord Krishna never judges or orders Arjuna. Arjuna is only informed of the pros and cons of every issue, leaving it up to him to decide whether or not he is able to follow Krishna's teachings.

Lord Krishna did not even influence Arjuna's free will. Arjuna had the right to accept everything. "The Bhagavad Gita is perhaps the most systematic scripture statement of the perennial philosophy" in his introduction to *The Song of God* by Swami Prabhavananda and Christopher Isherwood. The scripture has won the interest and admiration of such intellectuals as Von Humboldt of Germany and Emerson of America, and has influenced thinkers like Hegel and Schopenhauer. On July 16, 1945, in New Mexico, Robert Oppenheimer, the first chairman of the Atomic Energy Commission, stunned the world when he quoted Gita (11:12) after witnessing the first atomic explosion test. Later, in a congressional hearing, Oppenheimer said nuclear bombs reminded him of the Hindu God Vishnu, who said: "I am death, the devourer of all."

Lord Krishna never judges or orders throughout the Bhagavad Gita. He does not even influence Arjuna's free will. In fact, in the Mahabharata, **Rishi Veda Vyasa** converses to a broken-hearted Arjuna. The Upanishads are the knowledge of Hindu culture. Niels Bohr, the influential Danish physicist who made foundational contributions to understanding atomic structure and quantum theory, said: "When I have doubts, I look into the Upanishads to ask questions." There are three words that make up an Upanishad: **upa (near), ni (down), and shad (sit)**. When the teachings of the Upanishads were conveyed from masters to students, the students sat very close to the masters so that nobody could overshadow the teachings. Upanishad are test reveling ultimate truths by different saints. The Upanishads teach men that there is only one God, Brahman, and that every

one of us is part of the immortal soul, Atman, which is also Brahman.

The various parts of the 108 Upanishads based on the original Vedas from which they emanate. In addition, we present a framework that deploys different machine-learning methods for topic modeling. Deep learning is typically used to implement natural language processing (NLP) methods, which focus on processing and modeling language. Among the tasks NLP include are modelling topics, translating languages, recognizing speech, and analyzing semantics and sentiment. The purpose of sentiment analysis is to understand human emotions and affective states. Clustering is a type of unsupervised machine learning that groups unlabeled data depending on a given similarity measure. K-means clustering clusters n-data points into k-clusters, where each data point belongs to the cluster with the nearest mean. There are three steps to explaining the K-means algorithm. Initialization of the k-centroid corresponding to each cluster is the first step.

The Upanishad teach men that there is only one God, Brahman, and that every one of us is part of the immortal soul, Atman, which is also Brahman.

Out of the total of 108 Upanishads. Thirteen of them are considered the most important. They are:

- 1) Isha Upanishad
- 2) Kena Upanishad
- 3) Katha Upanishad
- 4) Prashna Upanishad
- 5) Mundaka Upanishad
- 6) Mandukya Upanishad
- 7) Aitareya Upanishad
- 8) Taittiriya Upanishad
- 9) Chandogya Upanishad
- 10) Brihadaranyaka Upanishad
- 11) Kaushitaki Upanishad
- 12) Shvetashvatara Upanishad

13) Maitri Upanishad

The Hindu have two epics the Ramayana and Mahabharata which make history (Ithihasas). The Ramayana is the story of Lord Rama, written by **Sage Valmiki**. It is the story of Lord Rama and princess Sita. Lord Rama is one of the avatars of **Lord Vishnu**, and the Ramayana preaches Hindu ideals of life. Sage Valmiki wrote the whole Ramayana as the narration of a crying dove who just lost her lover to a hunter's wicked arrow. This eloquent poem consists of 24,000 verses. There are many versions of the Ramayana. The Hindi version was written by Sage Tulsidas. The Malayalam version (the language of the Indian state of Kerala) was created by **Tuncattu Eluttacchan**. A very stylish

Sanskrit language was used in the original text.

Within the Vedas, there are four kinds of texts:

Samhitas: are the basic texts for hymns to deities, formulas and chants. The **Sanskrit word Samhita** means “put together.” **Brahmanas**: are the descriptions of rituals, as well as the directions for performing them. The word originated from the word Brahmin. **Brahmins** are the original Hindu priests, and they follow the Brahmanas to conduct rituals. **Aranyakas**: contain mantras and interpretations of rituals. These writings are also known as the “forest books,” since they are used by saints who meditated in the forests.

Conclusion

The Mahabharata War was not a bloody war of relatives killing relative; instead, it was a symbolic war between right and wrong, good and evil symbolic of everyday life.

Arjuna	Symbolizes	Jeevatman or the immortal soul within the body.
Lord Krishna	Symbolizes	God of Paramatman
Kurukshetra	Symbolizes	Field of action: life
Five horses	Symbolizes	Five sense organs
Pandavas	Symbolizes	Positive spiritual thoughts
Kauravas	Symbolizes	Negative destructive thoughts

The primary goal of the study was to link the themes from the Upanishads with the Bhagavad Gita. The representation of the low-dimensional embeddings presented in this work reveals much overlapping between the Upanishads and the Bhagavad Gita's essence, which adds to our objective of demonstrating the Bhagavad Gita's relationship with the Upanishads. Given the importance of religious literature to a community, employing computational models to verify any of its old and traditional spiritual principles demonstrates the scientific

nature of the literature and religion. In spite of the fact that the Gita is an essential extract from the Upanishads, it has been researched and written for generations in ancient Indian philosophical literature. In spite of this, computational and scientific methods have not been used to support this claim. By using deep learning-based methods, we are able to apply these methods to centuries-old philosophical narratives. It is also interesting to observe how the sentiment polarity changes for Arjuna and Lord Krishna over time. Initially, Arjuna was pessimistic, but after

Krishna imparted Hindu philosophy and Karma Yoga, he became optimistic. In addition to the knowledge imparted by the philosophy of 'Karma and dharma', the polarity of the sentiments expressed over time could explain why the Bhagavad Gita is viewed as a book about psychology, management, and conflict resolution. Besides the Vedas, other texts and verses are recited today on auspicious occasions based on their deep roots within the Vedic tradition.

Reference

- B. Muniapan and B. Satpathy, "The 'dharma' and 'Karma' of CSR from the Bhagavad-Gita," *J. Hum. Values*, vol. 19, no. 2, pp. 173–187, 2013.
- S. Kak, *The Mahabharata and the Sindhu-Sarasvati Tradition*, vol. 12, no. 25. Baton Rouge, LA, USA: Louisiana State Univ., 2012.
- M. Scott, "Religious language," in *The Stanford Encyclopedia of Philosophy*, E. N. Zalta, Ed. Stanford, CA, USA: Metaphysics Research Lab, Stanford Univ., 2017
- I. Theodor, *Exploring the Bhagavad Gita: Philosophy, Structure and Meaning*. Evanston, IL, USA: sRoutledge, 2016.
- Y. R. Pandey, "Economic interpretation of philosophy of Bhagavad Gita: A descriptive analysis," *Econ. J. Develop. Issues*, vol. 23, pp. 77–101, Jan. 2018.
- S. Kapila and F. Devji, *Political Thought in Action: The Bhagavad Gita and Modern India*. Cambridge, U.K.: Cambridge Univ. Press, 2013.
- A. K. Nayak, "Effective leadership traits from Bhagavad Gita," *Int. J. Indian Culture Bus. Manage.*, vol. 16, no. 1, pp. 1–18, 2018.
- N. K. Rajput, B. Ahuja, and M. K. Riyal, "A statistical probe into the word frequency and length distributions prevalent in the translations of Bhagavad Gita," *Pramana*, vol. 92, no. 4, pp. 1–6, Apr. 2019.
- W. L. Todd, "What did śankara have against Arjuna?" *Philosophy East West*, vol. 65, no. 3, pp. 918–935, 2015.
- B. Priyank et al., "Evaluation of water samples collected from Ulta Khera mound from Mahabharata fame Hastinapur," *Int. J. Res. Appl. Sci. Eng. Technol.*, vol. 6, no. 11, pp. 343–349, 2018.
- Z. Yang, Z. Dai, Y. Yang, J. Carbonell, R. Salakhutdinov, and Q. V. Le, "XLNet: Generalized autoregressive pretraining for language understanding," in *Proc. NeurIPS*, vol. 32, 2019, pp. 1–11
- Q. Yang, H. Alamro, S. Albaradei, A. Salhi, X. Lv, C. Ma, M. Alshehri, I. Jaber, F. Tifratene, W. Wang, T. Gojobori, C. M. Duarte, X. Gao, and X. Zhang, "SenWave: Monitoring the global sentiments under the COVID-19 pandemic," 2020, arXiv:2006.10842.
- R. Campos, V. Mangaravite, A. Pasquali, A. Jorge, C. Nunes, and A. Jatowt, "YAKE! Keyword extraction from single documents using multiple local features," *Inf. Sci.*, vol. 509, pp. 257–289, Jan. 2020.
- N. Srivastava, G. Hinton, A. Krizhevsky, I. Sutskever, and R. Salakhutdinov, "Dropout: A simple way to prevent neural networks from overfitting," *J. Mach. Learn. Res.*, vol. 15, no. 1, pp. 1929–1958, Jan. 2014.