Cultural Memory in Code: Computational Analysis of Regional Epic Variations in India

Sanchari Basak
PhD Scholar, University of Engineering and Management Jaipur, Rajasthan, India

Dr. Mukesh Yadav
Professor, University of Engineering and Management Jaipur, Rajasthan, India

Abstract

Indian epic traditions, particularly the Ramayana and Mahabharata, exist in numerous regional retellings that encode diverse cultural values and interpretative frameworks. While traditional philological approaches have documented select variations, comprehensive comparative analysis remains constrained by the sheer volume and linguistic diversity of these texts. This study presents a computational framework for systematically analyzing narrative variations across regional epic retellings, bridging artificial intelligence with cultural memory studies.

We employ natural language processing techniques including named entity recognition, topic modeling, and sentiment analysis to examine how key episodes, character portrayals, and moral frameworks diverge across versions. Our corpus includes Sanskrit originals alongside regional adaptations in Tamil, Bengali, Awadhi, and other Indian languages. The methodology reveals patterns of cultural adaptation, identifying which narrative elements remain stable across retellings and which undergo significant transformation based on regional contexts.

Preliminary findings demonstrate how computational approaches can map the plurality of Indian epic traditions, challenging monolithic interpretations while preserving cultural nuances. This research contributes to digital humanities by developing scalable methods for analyzing complex literary traditions, offers tools for cultural preservation, and demonstrates how AI can illuminate the dynamic nature of cultural memory in postcolonial contexts.

Keywords

Natural Language Processing, Cultural Memory, Indian Epics, Ramayana, Mahabharata, Digital Humanities, Narrative Analysis, Regional Variations, Computational Mythology.