

Retraining US Workforce in the Age of Agentic Gen AI: Role of Prompt Engineering and Up-Skilling Initiatives

General information

Publication type	DOI
Journal Article	10.48175/ijarsct-23272
Journal	Publisher
2025 , International Journal of Advanced Research in Science, Communication and Technology, p. 543-557	Naksh Solutions
Author	
Satyadhar Joshi	

Details

Number of citations	Number of works in the list of references
4	50
Indexed in Scopus	Indexed in Web of Science
No	No

Abstract

This work reviews U.S. workforce retention, AI upskilling, prompt engineering, workforce development, and automation in the context of recent advancements in agentic generative AI. The rapid integration of artificial intelligence (AI) across industries has raised concerns over potential job displacement within the US workforce. However, targeted upskilling—particularly through training in prompt engineering, a key skill for interacting with large language models—offers promising avenues to empower employees and retain talent. This review paper synthesizes insights from academic research, industry reports, and educational initiatives to examine how prompt engineering training can mitigate the challenges of AI-induced disruption and support workforce resilience. This review article provides a comprehensive overview of the rapidly evolving field of prompt engineering. It examines fundamental techniques for crafting effective prompts, explores the diverse applications of prompt engineering across various sectors, and discusses the challenges and ethical considerations associated with its use. Furthermore, the review identifies potential future research directions and highlights the growing importance of prompt engineering in the age of large language models. This review article provides a comprehensive overview of prompt engineering, with a specific focus on its implications for workforce development and training. It examines prompt engineering techniques, applications across sectors, ethical considerations, and future research directions. A key emphasis is placed on the role of prompt engineering training programs in equipping the workforce with essential skills for the age of large language models



Captures

Readers: 11



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