

# The Role of Artificial intelligence in Natural Language Processing

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**Abstract:** *This study explores how individuals perceive the role of artificial intelligence (AI) in natural language processing (NLP) through a survey conducted in February 2025 with 72 participants. The research examines attitudes toward AI-driven language models, trust in AI-generated content, and concerns regarding biases and misinformation. Using a structured dataset derived from survey responses, we applied a machine learning model to predict the likelihood of users relying on AI-powered NLP tools based on factors like perceived accuracy, trust, and ethical considerations. Findings were visualized through a confusion matrix, classification report, line graph, and scatter plot. Results indicate cautious optimism toward AI in NLP, with transparency and bias mitigation being highly valued. The study underscores the balance between AI's transformative potential in language understanding and the challenges of trust and ethical responsibility, offering insights for developers and businesses.*

**Keywords:** natural language processing