MAS14

Analysis of Job Trends in Artificial Intelligence and Machine Learning using AI/ML Job Listings

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Abstract

Artificial Intelligence (AI) and Machine Learning (ML) are transformative fields dedicated to developing systems that can undertake tasks usually associated with human intelligence, including language comprehension, pattern recognition, and decision-making. Careers in AI and ML span various positions, such as data scientists, machine learning engineers, and AI researchers, all essential for creating innovative solutions in multiple industries. This study investigates a comprehensive analysis of trends in the AI/ML job market using data sourced from LinkedIn job postings. Through applying various statistical and machine learning methodologies —including basic association analysis, multinomial logistic regression, k-nearest neighbors (KNN) classification, and cluster analysis, the study explores patterns and relationships in job characteristics such as contract types, experience levels, and work types. Key findings indicate a significant correlation between job contract types and experience levels, and cluster analysis identified distinct groups within the data. The multinomial logistic regression model showed strong predictive capabilities, and KNN achieved high accuracy in classification tasks. Also, the study provides insights into hiring patterns in the AI/ML job market, with significant implications for job seekers, employers, recruiters, and policymakers.

Conference Track

Modeling and Simulation