Artificial Intelligence–Driven Transformation of the Labor Market: An Empirical Analysis of AI Job Demand Trends

Naruemon Thepnuan[1,*], Mahani Soale Fuseini[2]

[1]Educational Technology and Communications Division, Faculty of Technical Education, Rajamangala University of Technology Thanyaburi, Thailand

[2]Cummings Graduate Institute of Behavioral Studies (CGI), Massachusetts, USA

ABSTRACT

The rapid advancement of artificial intelligence (AI) technologies has significantly transformed the global labor market, creating new job opportunities while reshaping the demand for specialized skills. This study aims to examine the impact of AI on labor market dynamics by analyzing trends in AI-related job demand, salary distribution, work arrangements, and job categories. Using a dataset of 1,500 AI job postings from 2025–2026, this research applies descriptive statistical analysis and exploratory data analysis to identify emerging patterns in the AI employment landscape. The results indicate a substantial increase in AI job postings between 2025 and 2026, reflecting the growing adoption of AI technologies across industries. The findings also reveal that AI-related roles offer highly competitive salaries, with an average annual salary of approximately $194,892, while senior-level positions can exceed $300,000. In addition, hybrid and remote work arrangements dominate the AI labor market, highlighting the flexibility of technology-driven occupations. The analysis further shows that roles such as LLM Engineer, Prompt Engineer, and Generative AI Engineer are among the most in-demand positions, reflecting the rapid expansion of generative AI technologies. These findings demonstrate that artificial intelligence plays a critical role in reshaping workforce demand and generating new employment opportunities in the digital economy.

Keywords Artificial Intelligence Labor Market, AI Job Demand Trends, Future of Work, Generative AI Employment, and AI Workforce Transformation

INTRODUCTION

Artificial intelligence (AI) has become one of the most influential technologies shaping the modern digital economy. Over the last decade, rapid advances in machine learning, deep learning, and natural language processing have significantly transformed how organizations operate and create value. AI technologies are now widely adopted across various industries, including healthcare, finance, manufacturing, education, and information technology. These technologies enable organizations to automate complex processes, improve decision-making capabilities, and develop innovative products and services [1], [2].

The rapid adoption of AI technologies has also significantly influenced the global labor market. Traditionally, technological innovation has been associated with the automation of routine tasks and the displacement of certain jobs. However, AI has demonstrated a more complex impact on employment patterns. While some occupations may be replaced by automated systems, new jobs requiring advanced technical and analytical skills have simultaneously emerged. As a result, the demand for professionals with expertise in artificial intelligence,

Submitted 20 May 2026
Accepted 15 July 2026
Published 17 November 2026

Corresponding author
Naruemon Thepnuan,
naruemon_t@rmutt.ac.th

Additional Information and Declarations can be found on page 294

DOI: 10.63913/jds.v2i4.46

Copyright
2026 Thepnuan and Fuseini

Distributed under
Creative Commons CC-BY 4.0

How to cite this article: N. Thepnuan and M. S. Fuseini, "Artificial Intelligence–Driven Transformation of the Labor Market: An Empirical Analysis of AI Job Demand Trends," *J. Digit. Soc.*, vol. 2, no. 4, pp. 283-296, 2026.

machine learning, data science, and related fields has grown substantially [3], [4].

Recent developments in generative AI and large language models have further accelerated this transformation. Technologies such as large-scale language models and multimodal AI systems are now capable of performing tasks that previously required human intelligence, including text generation, data analysis, and automated decision support. These advancements have created new professional roles such as prompt engineers, LLM engineers, and generative AI specialists. Consequently, organizations are increasingly seeking professionals who can design, develop, and manage advanced AI systems to maintain their competitive advantage in the digital economy [5].

Another important transformation associated with AI-driven employment is the increasing adoption of flexible work arrangements. The development of cloud computing infrastructure, collaborative development platforms, and remote communication technologies has enabled many AI-related tasks to be performed remotely. As a result, remote and hybrid work models have become increasingly common in AI-related occupations. These work arrangements allow organizations to access global talent pools and increase workforce flexibility while maintaining high levels of productivity [6].

From an academic perspective, numerous studies have investigated the relationship between artificial intelligence and employment dynamics. Previous research has explored the potential impact of automation on job displacement, skill requirements, and wage inequality in technology-driven economies. Several studies suggest that AI-driven automation may reduce demand for routine tasks while increasing demand for highly skilled workers capable of developing and managing intelligent systems. These studies highlight the importance of workforce adaptation and continuous skill development in the AI-driven economy [7].

Despite the growing body of literature examining the impact of AI on employment, there remains a limited number of empirical studies that analyze real-world job market data to understand current labor market trends. Many existing studies focus primarily on theoretical discussions or macroeconomic projections regarding the potential future impact of AI on employment. However, fewer studies have conducted data-driven analyses of job postings to examine how AI technologies are currently shaping workforce demand and employment structures in practice [8].

Therefore, an important research gap exists in understanding how the rapid expansion of artificial intelligence technologies is reflected in real-world labor market demand. In particular, there is a need for empirical analysis that examines recent trends in AI job demand, salary distribution, emerging job roles, and work arrangements within the AI workforce. Such analysis can provide valuable insights into how artificial intelligence is transforming employment structures and creating new professional opportunities in the digital economy.

To address this gap, this study investigates the transformation of the labor market driven by artificial intelligence by analyzing trends in AI job demand, salary levels, job categories, and work arrangements. Using a dataset consisting of 1,500 AI job postings from 2025–2026, this research applies descriptive statistical analysis and exploratory data analysis to identify emerging

patterns in the AI employment landscape. The findings of this study contribute to a better understanding of the evolving AI labor market and provide empirical evidence on how artificial intelligence is reshaping workforce demand in the modern digital economy.

Literature Review

Artificial intelligence has become a major driver of change in contemporary labor markets. The integration of AI technologies into business operations has significantly altered employment structures, job requirements, and workforce skill demands. AI systems are capable of performing complex analytical tasks such as predictive modeling, pattern recognition, and automated decision-making, enabling organizations to enhance productivity and operational efficiency. As AI adoption expands across industries, the demand for professionals with expertise in artificial intelligence, machine learning, and data-driven technologies continues to grow [9], [10].

The transformation of the labor market associated with artificial intelligence is closely linked to broader technological developments such as automation and digital transformation. Previous studies have demonstrated that technological innovations tend to automate repetitive and routine tasks while simultaneously generating new employment opportunities that require higher levels of technical expertise. In the context of AI implementation, organizations increasingly require specialists who can develop intelligent systems, manage large-scale datasets, and integrate machine learning models into existing digital infrastructures. This shift has contributed to the rapid emergence of new occupational categories in areas such as data science, machine learning engineering, and AI system architecture [11], [12].

Beyond purely technical occupations, artificial intelligence also influences broader organizational functions, including strategic management, product development, and innovation processes. AI-powered analytics tools enable organizations to extract insights from large volumes of data and support evidence-based decision-making. As a result, companies increasingly value professionals who possess interdisciplinary competencies that combine technical knowledge with managerial and analytical capabilities. This trend highlights the growing importance of cross-disciplinary expertise in the evolving digital economy [13], [14].

Recent advances in generative artificial intelligence and large language models have further accelerated the transformation of the AI workforce. Generative AI technologies enable machines to produce human-like text, images, and other forms of digital content, opening new possibilities for automation and innovation. These developments have led to the emergence of new professional roles such as prompt engineers, LLM engineers, and generative AI specialists who focus on designing and optimizing interactions between humans and intelligent systems. The emergence of these roles demonstrates how rapidly evolving AI technologies are reshaping the structure of modern employment [15], [16].

In addition to generative AI roles, several specialized AI-related occupations have become increasingly important in recent years. Positions such as machine learning engineers, data scientists, and AI infrastructure engineers play essential roles in developing and maintaining intelligent systems. These professionals are responsible for building machine learning pipelines, managing complex data environments, deploying models into production systems, and

ensuring the reliability and scalability of AI solutions. Their work supports the practical implementation of AI technologies and enables organizations to fully leverage intelligent systems in real-world applications [17].

The expansion of AI-related occupations has also led to notable changes in compensation structures within the technology sector. Workers possessing expertise in artificial intelligence, machine learning, and advanced data analytics frequently receive significantly higher salaries compared with workers in many other technical professions. This phenomenon is often referred to as the AI salary premium, which reflects both the scarcity of highly skilled AI professionals and the strategic importance of AI capabilities for organizations seeking competitive advantage in digital markets [18].

As global demand for AI expertise continues to increase, organizations are investing substantial resources to attract and retain qualified professionals. Competitive compensation packages, flexible work arrangements, and opportunities for professional growth are commonly used strategies to recruit AI talent. These factors contribute to the growing attractiveness of AI-related careers and reinforce the importance of continuous learning and advanced technical education in preparing the workforce for the AI-driven economy [19].

Although previous studies provide valuable insights into the relationship between artificial intelligence and employment, a large portion of the existing literature focuses on theoretical discussions or macroeconomic projections concerning the future of work. There remains a relatively limited number of empirical studies that examine real-world job market data to identify current trends in AI employment. In particular, analyses based on job posting datasets are still relatively scarce, despite their potential to reveal emerging patterns in workforce demand, salary structures, and evolving occupational categories within the AI labor market [20].

This limitation highlights the need for empirical investigations that analyze recent labor market data in order to better understand how artificial intelligence is transforming employment patterns. Examining real-world job postings can provide valuable insights into emerging job roles, evolving skill requirements, and changing workforce structures associated with AI adoption. Such empirical evidence is essential for understanding the ongoing transformation of the labor market and for supporting policymakers, organizations, and educational institutions in preparing for the future of work in an increasingly AI-driven economy.

Methods

This study adopts a quantitative descriptive research approach to analyze the transformation of the labor market driven by artificial intelligence. The analysis focuses on identifying patterns in AI job demand, salary distribution, job categories, and work arrangements using real-world job posting data. The research methodology consists of several stages, including dataset collection, data preprocessing, exploratory data analysis, and trend analysis.

The overall research process used in this study is illustrated in figure 1. The framework begins with the collection of the AI job market dataset covering job postings from 2025 to 2026. The dataset then undergoes data cleaning and preprocessing procedures to ensure data consistency and accuracy. After preprocessing, exploratory data analysis (EDA) is conducted to examine

patterns in key variables such as salary distribution, job demand, and work arrangements. The final stage involves trend analysis, which generates insights regarding how artificial intelligence is transforming the labor market.

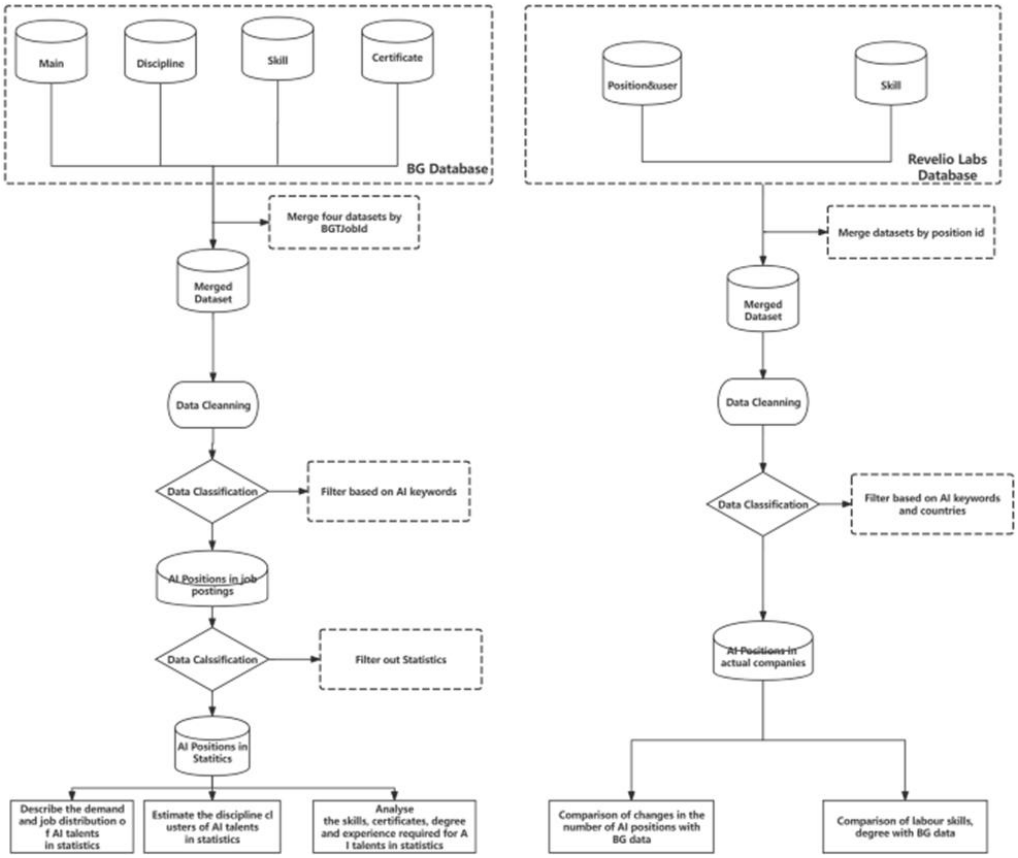


Figure 1 Research Framework

As shown in figure 1, the research framework follows a structured analytical process. The workflow begins with the dataset representing AI job postings. The dataset is then processed through cleaning and preprocessing steps to remove inconsistencies and prepare the data for analysis. Exploratory data analysis is subsequently conducted to identify relationships among variables and detect patterns within the dataset. The final analytical stage focuses on trend analysis to generate insights about the evolution of the AI labor market.

The dataset used in this study contains 1,500 AI-related job postings, each including multiple attributes related to employment characteristics, salary information, job demand indicators, and work arrangements. These attributes allow a comprehensive analysis of the AI labor market and provide the foundation for identifying emerging workforce trends. Table 1 presents the main variables used in the dataset along with their descriptions. These variables capture essential aspects of AI job postings and support the analysis of labor market dynamics.

The variables presented in table 1 represent key characteristics of AI job postings, including employment requirements, compensation levels, and indicators of labor market demand. For example, the variable annual_salary_usd captures the compensation offered for each position, while demand_score represents the relative demand for different job categories.

Additionally, the remote_work variable provides information about work arrangements, which is important for understanding the shift toward remote and hybrid working models in the technology sector.

Table 1 Dataset Variables Description

Variable	Description
job_title	AI job position title
job_category	Category of AI-related job
experience_level	Experience level required for the job
years_of_experience	Required years of professional experience
annual_salary_usd	Annual salary offered for the position (USD)
remote_work	Type of work arrangement (Remote, Hybrid, On-site)
demand_score	Demand index representing job market demand
demand_growth_yoy_pct	Year-over-year growth of job demand
posting_year	Year when the job posting was published
required_skills	Technical skills required for the job role

To better understand the characteristics of the dataset, descriptive statistical analysis was conducted on several numerical variables. This analysis summarizes important statistical measures such as mean values, standard deviations, and minimum and maximum values.

The descriptive statistics presented in table 2 provide an overview of the dataset used in this study. The results indicate that AI-related positions require an average of 6.21 years of professional experience, suggesting that many AI roles require mid-level expertise. The average annual salary is approximately $194,892, indicating that AI-related occupations offer highly competitive compensation. Furthermore, the average demand score of 87.52 and demand growth rate of 31.11% demonstrate the strong demand for AI professionals in the labor market. These descriptive statistics provide a foundation for further analysis conducted in the subsequent sections, including trend analysis of job demand, salary distribution, and employment structures within the AI labor market.

Table 2 Descriptive Statistics

Variable	Mean	Min	Max
Years of Experience	6.21	1	15
Annual Salary (USD)	194,892	90,000	384,000
Demand Score	87.52	68	98
Demand Growth YoY (%)	31.11	5	87.8
Benefits Score	7.89	6	9.8

Results

Trends in AI Job Postings

To examine the transformation of the labor market driven by artificial intelligence, this study first analyzes the trend of AI-related job postings across the observed period. The number of job postings serves as an indicator of labor

market demand for AI professionals.

As shown in figure 2, the number of AI job postings increased significantly from approximately 620 postings in 2025 to around 880 postings in 2026. This increase represents substantial growth in the demand for AI professionals within a relatively short period.

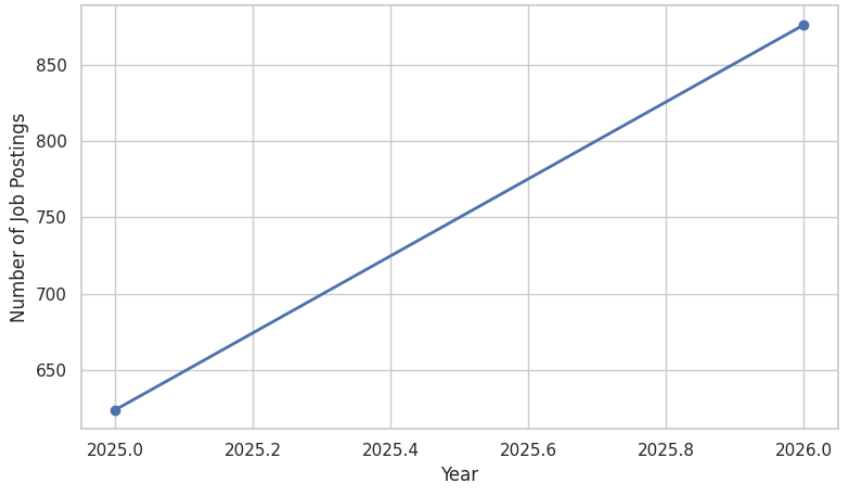


Figure 2 AI Job Postings Trend by Year

The upward trend indicates that organizations across industries are increasingly adopting artificial intelligence technologies. Consequently, companies require skilled professionals capable of developing, deploying, and maintaining AI systems. This rapid increase in demand suggests that AI technologies are becoming a critical component of digital transformation strategies.

Distribution of AI Job Salaries

Another important aspect of the AI labor market is salary distribution. High compensation levels often reflect the scarcity of specialized skills and the strategic importance of AI-related roles in organizations.

Figure 3 illustrates the distribution of annual salaries for AI-related positions. The salaries range from approximately $90,000 to $384,000 per year, with an average salary of about $194,892. Most AI job salaries fall within the $140,000 to $250,000 range, indicating that AI-related occupations provide highly competitive compensation compared with many other technology roles. The distribution also shows a right-skewed pattern, meaning a smaller number of highly specialized roles, such as AI architects and senior AI engineers, receive significantly higher salaries. These findings highlight the strong economic value associated with AI expertise in the modern labor market.

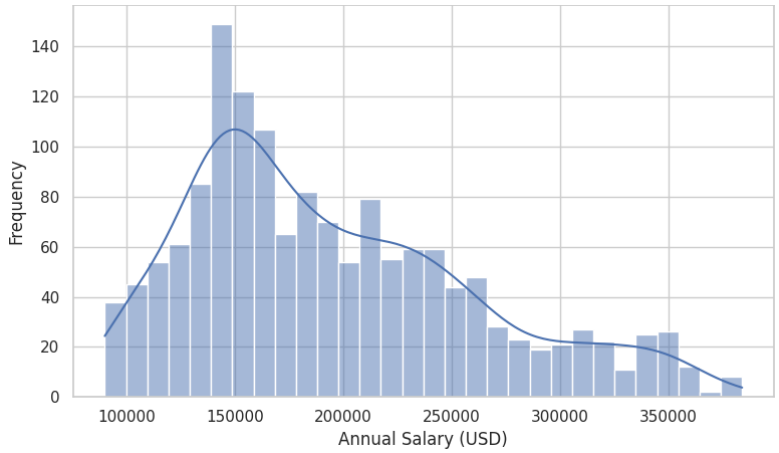


Figure 3 **Distribution of AI Job Salaries**

Remote Work Patterns in AI Jobs

Flexible work arrangements have become increasingly common in technology-related occupations. This study, therefore, examines the distribution of remote, hybrid, and on-site AI jobs.

As illustrated in figure 4, hybrid work arrangements represent the largest share of AI jobs, followed by fully remote and on-site positions. Hybrid positions account for the majority of job postings, reflecting organizations' preference for flexible working models.

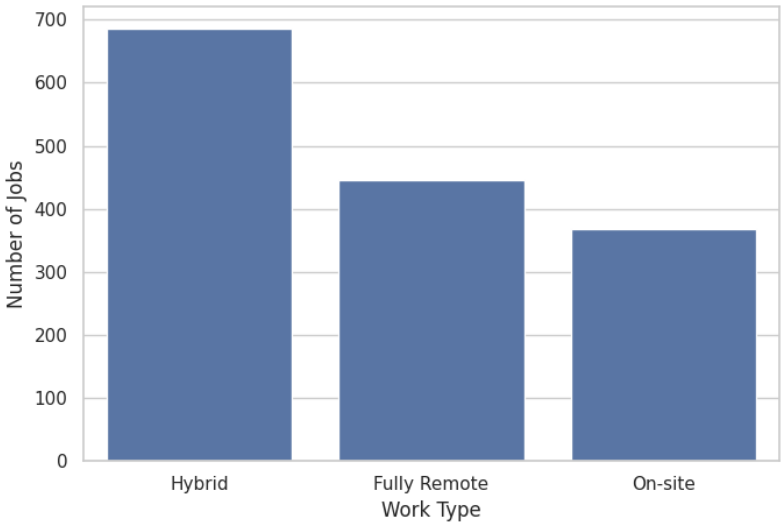


Figure 4 **Remote vs Non-Remote AI Jobs**

Fully remote positions also represent a substantial proportion of AI roles. This trend is consistent with the digital and collaborative nature of AI development, where many tasks—such as model training, software development, and data analysis—can be performed remotely using cloud-based tools. Overall, the results indicate that the AI labor market strongly supports flexible work environments.

Most Demanded AI Job Titles

To further understand the evolving structure of the AI labor market, the study examines the most frequently occurring job titles in the dataset.

Figure 5 presents the ten most frequently posted AI job titles. Among these positions, LLM Engineer, Robotics Engineer (AI), Prompt Engineer, and Generative AI Engineer are the most common roles.

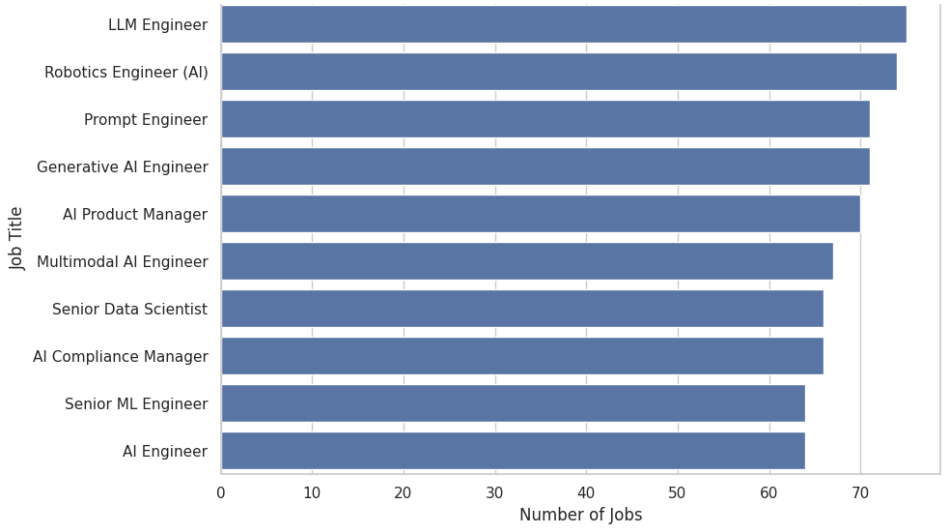


Figure 5 Top 10 AI Job Titles

The prominence of these job titles reflects the rapid growth of generative AI technologies and large language models. Organizations are increasingly seeking specialists capable of designing advanced AI systems, developing natural language processing models, and integrating generative AI into business applications. This shift also indicates the emergence of new AI-related professions that did not exist a decade ago.

AI Job Categories with the Highest Demand

In addition to job titles, the analysis also examines job categories with the highest demand scores. Demand scores represent an index indicating the level of labor market demand for specific job categories. Table 3 presents the top AI job categories based on demand score.

Table 3 Top AI Job Categories by Demand Score

Job Category	Demand Score
ML Operations	93.0
AI Engineering	92.57
Data Science	90.96
Data Engineering	88.00
Research	88.00
Infrastructure	85.00
Product	85.00
Architecture	84.00
Security	80.00
Business	78.00

Table 3 shows that ML Operations and AI Engineering have the highest demand scores. These roles play a crucial role in the deployment and maintenance of AI systems in production environments. The high demand for Data Science and Data Engineering roles also indicates the importance of data infrastructure and analytics capabilities in supporting AI-driven decision-making processes.

Average Salary by Job Category

Salary differences across job categories provide insights into the value placed on different types of AI expertise. Table 4 presents the average annual salaries across AI job categories.

Table 4 Average Salary by Job Category

ob Category	Average Salary (USD)
Architecture	251,576
AI Engineering	207,982
Infrastructure	203,527
Security	200,400
ML Operations	199,215
Product	194,571
Research	192,280
Data Science	181,275
Data Engineering	176,156
Robotics	170,851
Governance	152,516
Business	134,145

Table 4 indicates that Architecture and AI Engineering roles offer the highest salaries, with average salaries exceeding $200,000 annually. These positions typically require advanced technical expertise and experience in designing large-scale AI systems. In contrast, categories such as Governance and Business show relatively lower average salaries, reflecting differences in technical complexity and required skill specialization.

Discussion

The findings of this study provide important insights into the transformation of the labor market driven by artificial intelligence technologies. The results indicate a substantial increase in AI-related job demand between 2025 and 2026, reflecting the rapid adoption of AI across industries. This trend is consistent with previous research suggesting that artificial intelligence is significantly reshaping employment patterns and creating new opportunities for highly skilled workers. As organizations increasingly integrate AI into their operations, the demand for specialized roles such as AI engineers, machine learning engineers, and data scientists continues to grow.

One notable finding is the emergence of new job roles related to generative AI and large language models, including LLM Engineer, Prompt Engineer, and Generative AI Engineer. These roles highlight the growing importance of generative AI technologies in the modern digital economy. Companies are actively seeking professionals who can design, train, and optimize AI models capable of performing complex tasks such as natural language processing,

multimodal learning, and intelligent automation.

Another important aspect revealed by the analysis is the high salary levels associated with AI-related occupations. The results show that AI professionals earn significantly higher salaries compared with many other technology roles. This salary premium reflects the scarcity of specialized AI expertise and the strategic importance of AI capabilities for organizations seeking competitive advantage. Positions related to AI architecture, infrastructure, and engineering tend to offer the highest compensation, as they require advanced technical knowledge and extensive experience.

The study also highlights the growing importance of flexible work arrangements in the AI labor market. The results indicate that hybrid work models dominate AI job postings, followed by fully remote positions. This pattern reflects the digital nature of AI development work, where many tasks can be performed remotely using cloud-based infrastructure and collaborative software tools. The increasing availability of remote AI jobs also enables organizations to access global talent pools and attract highly skilled professionals regardless of geographic location.

Furthermore, the analysis of job categories reveals that ML Operations, AI Engineering, and Data Science are among the most in-demand categories in the AI labor market. The strong demand for ML Operations roles suggests that organizations are increasingly focused not only on developing AI models but also on deploying and maintaining them in production environments. This shift highlights the growing importance of operationalizing AI systems and ensuring their reliability, scalability, and performance in real-world applications.

Overall, these findings demonstrate that artificial intelligence is fundamentally transforming the structure of the labor market. While AI technologies may automate certain routine tasks, they also create new employment opportunities that require advanced digital skills and interdisciplinary expertise. As a result, workers and organizations must continuously adapt to evolving skill requirements in order to remain competitive in the AI-driven economy.

Conclusion

This study examined the transformation of the labor market driven by artificial intelligence by analyzing trends in AI job demand, salary distribution, work arrangements, and job categories. The findings indicate that the demand for AI professionals has grown significantly between 2025 and 2026, highlighting the increasing importance of AI technologies in modern organizations.

The analysis reveals that AI-related occupations offer highly competitive salaries, with average annual earnings approaching $200,000. Roles involving AI architecture, engineering, and infrastructure command the highest salaries, reflecting the complexity and strategic importance of these positions. In addition, the emergence of new roles such as LLM engineers and prompt engineers illustrates the rapid development of generative AI technologies and their impact on workforce demand.

The study also shows that hybrid and remote work arrangements are becoming increasingly common in AI-related jobs. This trend reflects the digital and collaborative nature of AI development and suggests that organizations are adopting more flexible work models to attract and retain top talent.

Furthermore, the results highlight the critical role of job categories such as ML Operations, AI Engineering, and Data Science in supporting the development and deployment of AI systems. These roles are essential for enabling organizations to effectively integrate AI technologies into their operations and decision-making processes.

In conclusion, artificial intelligence is playing a significant role in reshaping the global labor market. While AI introduces new challenges related to workforce adaptation and skill requirements, it also creates substantial opportunities for innovation, economic growth, and new forms of employment. Future research may explore longer-term labor market trends, regional variations in AI job demand, and the evolving skill sets required in the AI-driven economy.

Declarations

Author Contributions

Conceptualization: N.T., M.S.F.; Methodology: M.S.F.; Software: N.T.; Validation: N.T., M.S.F.; Formal Analysis: N.T., M.S.F.; Investigation: N.T.; Resources: M.S.F.; Data Curation: M.S.F.; Writing Original Draft Preparation: N.T., M.S.F.; Writing Review and Editing: M.S.F., N.T.; Visualization: N.T.; All authors have read and agreed to the published version of the manuscript.

Data Availability Statement

The data presented in this study are available on request from the corresponding author.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Institutional Review Board Statement

Not applicable.

Informed Consent Statement

Not applicable.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

[1] T. B. Brown *et al.*, “Language models are few-shot learners,” *arXiv preprint arXiv:2005.14165*, 2020, doi: 10.48550/arXiv.2005.14165.

[2] Y. LeCun, Y. Bengio, and G. Hinton, “Deep learning,” *Nature*, vol. 521, no. 7553, pp. 436–444, 2015, doi: 10.1038/nature14539.

[3] D. Acemoglu and P. Restrepo, “Artificial intelligence, automation, and work,” in *The Economics of Artificial Intelligence: An Agenda*, A. Agrawal, J. Gans, and A. Goldfarb, Eds. Chicago, IL, USA: University of Chicago Press, 2019, pp. 197–236, doi: 10.7208/chicago/9780226613475.003.0008.

[4] M. Lane and A. Saint-Martin, “The impact of artificial intelligence on the labour market: What do we know so far?,” *OECD Social, Employment and Migration*

Working Papers, no. 256. Paris, France: OECD Publishing, 2021, doi: 10.1787/7c895724-en.

[5] R. Bommasani *et al.*, "On the opportunities and risks of foundation models," *arXiv preprint arXiv:2108.07258*, 2021, doi: 10.48550/arXiv.2108.07258.

[6] N. Bloom, J. Liang, J. Roberts, and Z. J. Ying, "Does working from home work? Evidence from a Chinese experiment," *The Quarterly Journal of Economics*, vol. 130, no. 1, pp. 165–218, 2015, doi: 10.1093/qje/qju032.

[7] C. B. Frey and M. A. Osborne, "The future of employment: How susceptible are jobs to computerisation?," *Technological Forecasting and Social Change*, vol. 114, pp. 254–280, 2017, doi: 10.1016/j.techfore.2016.08.019.

[8] D. J. Deming and L. B. Kahn, "Skill requirements across firms and labor markets: Evidence from job postings for professionals," *Journal of Labor Economics*, vol. 36, no. S1, pp. S337–S369, 2018, doi: 10.1086/694106.

[9] E. Brynjolfsson, D. Rock, and C. Syverson, "Artificial intelligence and the modern productivity paradox: A clash of expectations and statistics," NBER Working Paper no. 24001, Nov. 2017, doi: 10.3386/w24001.

[10] D. H. Autor, "Why are there still so many jobs? The history and future of workplace automation," *Journal of Economic Perspectives*, vol. 29, no. 3, pp. 3–30, 2015, doi: 10.1257/jep.29.3.3.

[11] D. Acemoglu and P. Restrepo, "Automation and new tasks: How technology displaces and reinstates labor," *Journal of Economic Perspectives*, vol. 33, no. 2, pp. 3–30, 2019, doi: 10.1257/jep.33.2.3.

[12] M. Javaid, A. Haleem, R. P. Singh, and R. Suman, "Artificial intelligence applications for Industry 4.0: A literature-based study," *Journal of Industrial Integration and Management*, vol. 7, no. 1, pp. 83–111, 2022, doi: 10.1142/S2424862221300040.

[13] S. Raisch and S. Krakowski, "Artificial intelligence and management: The automation–augmentation paradox," *Academy of Management Review*, vol. 46, no. 1, pp. 192–210, 2021, doi: 10.5465/amr.2018.0072.

[14] G. Graetz and G. Michaels, "Robots at work," *The Review of Economics and Statistics*, vol. 100, no. 5, pp. 753–768, 2018, doi: 10.1162/REST_A_00754.

[15] J. Wei *et al.*, "Emergent abilities of large language models," *arXiv preprint arXiv:2206.07682*, 2022, doi: 10.48550/arXiv.2206.07682.

[16] H. Varian, "Artificial intelligence, economics, and industrial organization," in *The Economics of Artificial Intelligence: An Agenda*, A. Agrawal, J. Gans, and A. Goldfarb, Eds. Chicago, IL, USA: University of Chicago Press, 2019, pp. 399–422, doi: 10.7208/chicago/9780226613475.003.0016.

[17] J. Schmidhuber, "Deep learning in neural networks: An overview," *Neural Networks*, vol. 61, pp. 85–117, 2015, doi: 10.1016/j.neunet.2014.09.003.

[18] M. Webb, "The impact of artificial intelligence on the labor market," *SSRN Electronic Journal*, 2019, doi: 10.2139/ssrn.3482150.

[19] A. Agrawal, J. S. Gans, and A. Goldfarb, "Artificial intelligence: The ambiguous labor market impact of automating prediction," *Journal of Economic Perspectives*, vol. 33, no. 2, pp. 31–50, 2019, doi: 10.1257/jep.33.2.31.

[20] J. Bessen, M. Goos, A. Salomons, and W. van den Berge, "What happens to workers at firms that automate?," *The Review of Economics and Statistics*, vol. 107, no. 1, pp. 125–141, 2025, doi: 10.1162/rest_a_01284.