

Course Title: Research Methodology in Computer Science

Course Code: AI800

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Assignment Report: The Role of AI in Automation

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Summary of research Papers:

Paper 1: Roles of Artificial Intelligence in Collaboration with Humans: Automation, Augmentation, and the Future of Work

This study shows that the best way to use AI at work depends on the type of task in some cases AI can do the whole task by itself (automation) In other cases AI works with people to improve their performance However the study also says that its results may not apply to all types of work because it was only tested in a few areas and did not consider the operational costs and challenges of using AI in real workplaces I have personally noticed this in many real life examples. (Fügener et al., 2026)

Paper 2: Artificial Intelligence and Automation in Human Resource Development

This research paper explains how artificial intelligence and automation can contribute to human resource development It shows that AI training and improves employee performance but this study is based on older research and not on practical experience and it states that it may not be suitable for small companies (Ekuma, 2024)

Paper 3: Automation, AI & Work

This study explained that artificial intelligence is replacing humans in most jobs that require physical and mental effort and it may that AI could reduce the number of jobs and lower wages for some workers and widen the gap between the rich and poor people The study also says that governments can help reduce these problems This research paper focused only on developed countries and is not suitable for developing countries (Tyson & Zysman, 2022)

Paper 4: AI-driven warehouse automation: A comprehensive review of systems

This study demonstrated how artificial intelligence improves warehouse and supply chain operations. It showed how AI can predict customer demand, identify products with high accuracy, and help warehouse systems make better decisions when conditions change. However, this study did not address the significant costs of using AI systems, nor did it mention the technical problems that can occur if the system is under heavy load.

(Sodiya et al., 2024)

Paper 5: The blended future of automation and AI: Examining some long-term societal and ethical impact features

This study explores how artificial intelligence and automation could change society in the future, suggesting that AI may affect people's daily lives. It argues that we need clear rules to protect privacy, limit unfair decisions, and ensure AI fairness for all, and also that the study relies on ideas and discussions rather than real-life experience and does not explain how these rules can be used in different countries (Khogali & Mekid, 2023).

Paper 6: Re-examining AI, automation and datafication in education

This research paper explains how artificial intelligence and automation can be used in education and how AI can help teachers and reduce administrative work, and they also point out the possibility that it might make education too dependent on data. Furthermore, this study relied solely on ideas and reviews rather than actual school data, so its results may not reflect what really happens in schools (Williamson et al., 2023).

Critical Analysis

Well, these studies show that artificial intelligence and automation can improve work education logistics, and human resource development offering many benefits most notably saving time improving performance and supporting faster and better decision making also most of these studies are based on previous research and ideas rather than practical experiments and most also focus on specific sectors or countries Therefore their results may not apply to every situation Overall the information in these studies is useful but more applied research is needed to better understand the true impact of artificial intelligence in different environments

Connections

1. All studies focus on AI and automation and have different impacts on different sectors
2. All agree that AI improves efficiency and helps people work faster and better.
3. Most studies have pointed to potential risks including job loss privacy violations and lower wages
4. Most studies suggest that AI should support people not simply replace them in every situation
5. All studies show that more practical research is needed before AI can be applied widely in different environments

Conflicts Between the Findings

1. Some studies show that AI can help people do their jobs better while others believe that AI may replace workers and reduce job opportunities. This shows that the impact of AI on work is still a topic of debate
2. Some studies support the use of artificial intelligence in workplaces and education to improve performance but other studies warn against over reliance on AI which could create new problems
3. Some studies suggest that artificial intelligence can improve organizational performance and increase productivity but the others warn that it could exacerbate inequality if not used carefully
4. Some studies focus on the technical advantages of artificial intelligence systems and the others focus on ethical social and privacy issues

Synthesis Matrix for Literature Review

Study Title	Authors	Year	Research Design	Key Findings / Results	Limitations	Source
Roles of AI in Collaboration with Humans	Fügener et al.	2026	Analytical Modeling	Automation assigns the tasks while augmentation helps humans and AI work together	Focused only on image classification tasks	Management science
AI and Automation in HR Development	Ekuma	2024	Systematic Review	AI improves HR tasks and increases work efficiency	Did not measure the exact financial benefits of AI	Human Resource Development Review
Automation , AI & Work	Tyson & Zysman	2022	Macro Review	AI changes jobs and requires new work policies	Depends on future policy changes	Daedalus
AI-driven Warehouse Automation	Sodiya et al.	2024	Technical Survey	AI makes warehouse operations faster and more efficient	Limited discussion of costs and implementation challenges	GSC Advanced Research and reviews

The Blended Future of Automation and AI	Khogali & Mekid	2023	Societal Review	AI is changing society and needs strict ethical rules	More theoretical than practical	Technology in Society
Re-examining AI... in Education	Williamson et al.	2023	Critical Survey	AI reduce teachers workload but may affect learning quality	Focuses more on risks than benefits .	Learning media and technology

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