

Review Form 3

Journal Name:	Current Journal of Applied Science and Technology
Manuscript Number:	Ms_CJAST_130317
Title of the Manuscript:	Online Reinforcement Learning for Real-Time Monitoring and Control in Production Systems
Type of the Article	Original Research Article

PART 1: Comments

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	This manuscript addresses a critical area in modern industrial operations—real-time monitoring and control using online reinforcement learning (RL). It is highly relevant to the scientific community as it bridges the gap between traditional static optimization techniques and adaptive, data-driven decision-making in dynamic environments. The focus on applications in predictive maintenance, dynamic scheduling, and process optimization demonstrates practical implications for Industry 4.0. Furthermore, the discussion of challenges and future directions provides valuable insights for advancing the adoption of RL in industrial systems.	
Is the title of the article suitable? (If not please suggest an alternative title)	The current title is suitable and accurately reflects the manuscript's content. Suggested Alternative (if needed): "Advancing Real-Time Monitoring and Control in Industry 4.0 Using Online Reinforcement Learning" (to emphasize Industry 4.0 relevance).	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract is comprehensive, clearly outlining the manuscript's focus, methodology, key findings, and challenges. However, it could benefit from explicitly mentioning the practical implications in terms of cost savings or operational efficiency, which would highlight its relevance further. Suggested Edits: Add a brief statement emphasizing the expected real-world benefits, such as "The findings underscore the potential of RL to reduce operational costs and downtime while enhancing productivity."	
Is the manuscript scientifically, correct? Please write here.	The manuscript is scientifically sound, with robust discussions on RL methodologies, applications, and challenges. The use of examples such as Rolls-Royce's predictive maintenance system and Toyota's RL-based scheduling system strengthens the practical relevance. However, more quantitative results from real-world deployments would enhance the validity of the claims	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The references are recent and cover foundational and state-of-the-art works in reinforcement learning and industrial applications. However, adding specific case studies or benchmarks for RL in production systems could further enrich the bibliography. Suggested Additional References: 1. Liu, R., Rajesh Piplani, and Toro, C. (2023). A deep multi-agent reinforcement learning approach to solve dynamic job shop scheduling problems. https://www.sciencedirect.com/science/article/abs/pii/S0305054823001582 2. Singh, M., et al. (2022). Applications of digital twin across industries: A review. https://www.mdpi.com/2076-3417/12/11/5727	

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Is the language/English quality of the article suitable for scholarly communications?	The language quality is generally suitable for scholarly communication. Sentences are clear and concise, with minimal grammatical errors. However, a few areas could benefit from rephrasing to improve readability. Example: Original: "Online RL allows agents to balance exploration of new strategies with exploitation of learned policies to optimize performance." Suggested: "Online RL enables agents to dynamically balance exploring new strategies and leveraging learned policies for optimal performance."	
Optional/General comments	Overall, revision is required.	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

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