

Review of: "Optimized Material Removal and Tool Wear Rates in Milling API 5ST TS-90 Alloy: AI-Driven Optimization and Modelling with ANN, ANFIS, and RSM"

Soundararajan Soundararajan¹

¹ Sri Krishna College of Engineering and Technology

Potential competing interests: No potential competing interests to declare.

Exemplary research work. Please address the following questions into the relevant sections before final approval.

1. How did the comparison between the ANFIS, ANN, and RSM models for predicting the Material Removal Rate (MRR) and Tool Wear Rate (TWR) reveal the superior performance of the ANFIS model, and what specific factors contributed to this outcome?
2. What were the key insights gained from the validation process of the optimum milling parameters, and how did the results demonstrate a close correlation between the predicted and validated values, particularly in terms of MRR and TWR?
3. How did the use of the combined intelligent models, namely ANFIS, ANN, and RSM, contribute to a more comprehensive understanding of the predictive modeling of material removal and tool wear rates in milling API 5ST TS-90 alloy, and how does this study contribute to the existing literature gap?
4. In what specific ways did the optimal process milling parameters (spindle speed, feed rate, and depth of cut) impact the material removal rate (MRR) and tool wear rate (TWR), and how did these parameters align with industry standards and expectations for improved production efficiency and reduced tooling costs?
5. How does the utilization of the RSM, ANN, and ANFIS models with a coefficient of determination above 0.85 contribute to the overall effectiveness and reliability of the predictive modeling process, and what implications does this have for future research and practical applications in the milling industry?
6. The authors make reference to and cite the following articles:

<http://dx.doi.org/10.1155/2015/714762>

<http://dx.doi.org/10.1016/j.jallcom.2016.05.292>

<https://doi.org/10.1016/j.matpr.2017.02.047>

<https://doi.org/10.1007/s42452-020-03409-3>