

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"

A Kiran Kumar¹

¹ Gandhi Institute of Technology and Management

Potential competing interests: No potential competing interests to declare.

1. Could you elaborate on the reason behind choosing the Central Composite Design (CCD) for the experimental design? Were there other designs considered?
2. The data was divided into training, validation, and testing sets with 70%, 15%, and 15% respectively. Any specific reason behind choosing this split ratio? Were there considerations for potential data imbalances or outliers?
3. The trial-and-error method was employed to determine the ideal number of neurons in the hidden layer. What were some of the specific criteria or guidelines used during this process? How many different configurations were tested before settling on eight neurons?
4. The lowest Mean Squared Error (MSE) and highest correlation coefficient were used as performance checks. Could you provide insights into why these specific metrics were chosen? Were there any other metrics considered?
5. Levenberg–Marquardt (LM) backpropagation was chosen as the algorithm. What were the specific reasons for selecting this algorithm over others? Were there any advantages it offered in this context?
6. Was there any sensitivity analysis conducted to assess how changes in the number of neurons in the hidden layer might impact the performance of the ANN model?
7. Are there any specific directions for future research that were identified because of this study? For instance, are there additional variables or parameters that could be considered, or are there other alloys or materials that could benefit from similar investigations?
8. Were there any limitations acknowledged in the study that could potentially impact the generalizability or applicability of the findings?