Investigation on the tribological properties of carbon fiber reinforced polymer-based tri-bocomposites and their simulation-supported optimization

Motivation:
Carbon fiber reinforced polymer materials are increasingly used as high performance tri-bocomposites. Different types of carbon fibers will affect the tribological properties of the tri-bocomposites. By using well trained artificial neural network, tribological properties of different composites will be compared and predicted.

Your task:
- Reviewing relevant literature about tri-bocomposites and artificial neural networks, getting basic knowledge of tribology and machine learning.
- Learning to use different types of tribological test bench to characterize the tribological properties of tri-bocompounds.
- Building an artificial neural network with suitable structure and learning algorithm, and training the network with measurement data from tribological experiments, validating the trained artificial neural network.
- Comparing and predicting tribological properties of different tri-bocompounds by using a well-trained artificial neural network.

The topic has to be worked on and documented as a scientific thesis.

Language: Germany/English

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