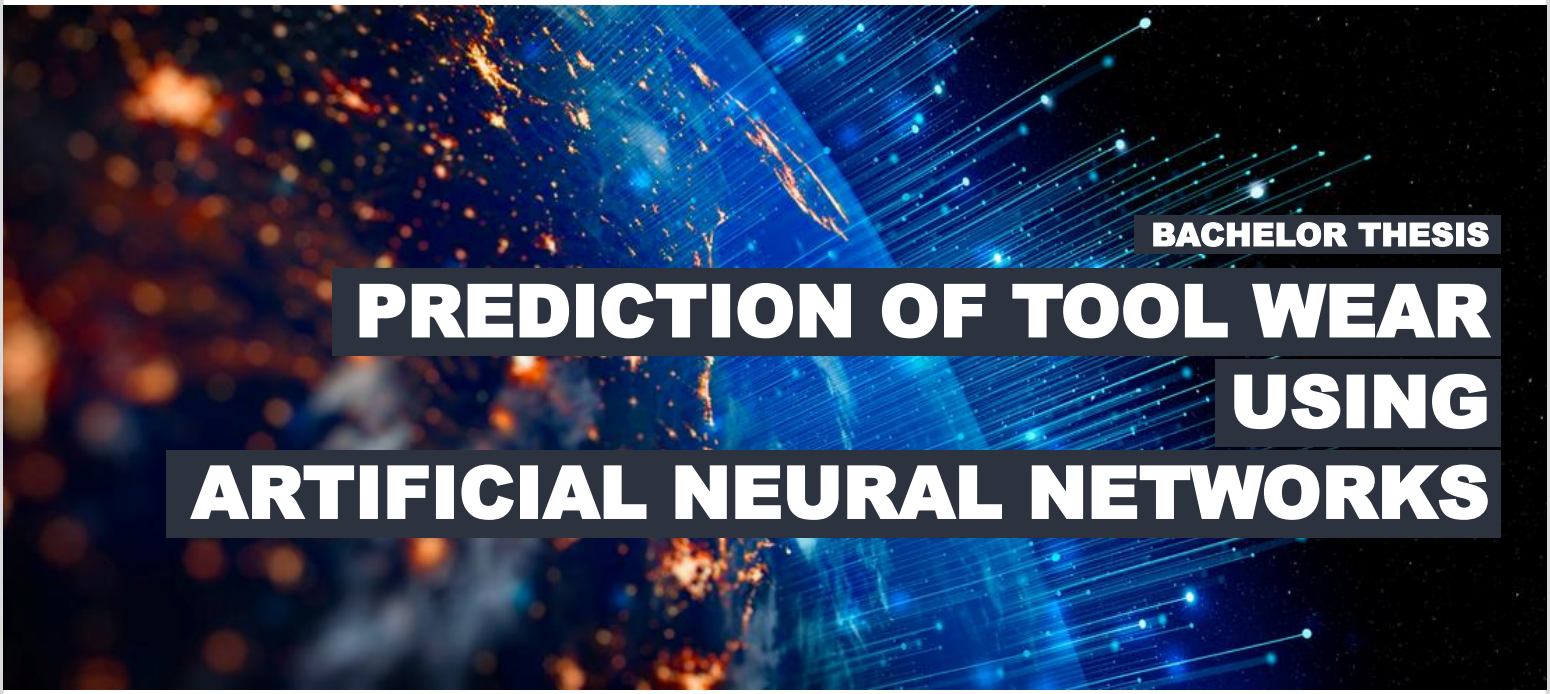
Karlsruhe Institute of Technology

wbk Institute of Production Science



BACHELOR THESIS

PREDICTION OF TOOL WEAR USING ARTIFICIAL NEURAL NETWORKS

DESCRIPTION

The growing trend towards digitalization and automation requires advanced models which are capable of **modelling tool wear** in CNC machining. **Recurrent neural networks** have been used for successfully modelling time-series data and thus tool-wear.

The aim of the presented bachelor's thesis is to generate artificial tool wear data using genuine data. Generated data will be further used for training and validating a recurrent network.

Curious?
Then write me a short E-Mail including your motivation, CV, current grades and a couple sentences about who you are.

I would be happy to answer further questions in a personal meeting!

REQUIREMENTS

- Interest in machining and artificial intelligence
- First experiences in Python
- Independent and structured working style

TASKS

- Literature research on tool wear, recurrent neural networks, statistics and the current state of the art.
- Generation of artificial tool wear data using statistical methods
- Modelling tool wear and rest useful life using recurrent neural networks

FURTHER INFORMATION

- Start: Immediately
- Duration: 3 or 6 Months

CONTACT

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