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!*

**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.

**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

**REQUIREMENTS**

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

**CONTACT**

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