



54th CIRP Conference on Manufacturing Systems

## A computer vision system for saw blade condition monitoring

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### Abstract

Tool condition monitoring is a key component of predictive maintenance in smart manufacturing. Predicting excessive tool wear in machining processes becomes increasingly difficult if different materials need to be processed. We propose a novel computer vision-based system for saw blade condition monitoring that is independent of the processed materials and combines deep learning with classic computer vision. Our approach allows for accurate condition monitoring of blade wear which can further be used for predictive maintenance. Additionally, the system can classify different defect types such as missing blade teeth, thus preventing the production of scrap parts.

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Peer-review under responsibility of the scientific committee of the 54th CIRP Conference on Manufacturing System.

**Keywords:** Condition monitoring; computer vision; deep learning; saw blade wear;

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