Institut für Werkzeugmaschinen und Betriebswissenschaften (*iwb*)
TUM School of Engineering and Design
Technische Universität München

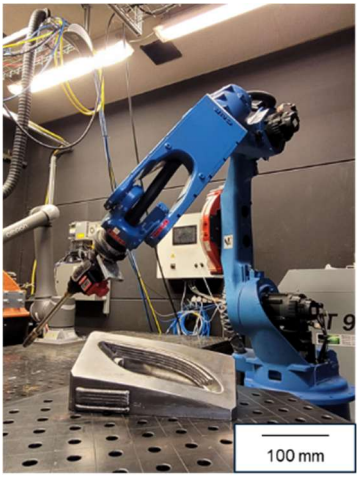
SA for the Adaptive Repair of Components using Robotic Arc Welding

Current situation

For decades, weld repair has been performed by highly skilled welders. However, labor shortages and increasing workloads drive the industry to seek more cost-effective and efficient solutions, such as robotic welding. Nonetheless, robotic welding still lacks the adaptability and autonomy of the human mind. In this position, AI algorithms will be implemented to enable robotic welding to adapt to the environment, much like a human welder.

Scope of the work

This study aims to develop a decision-making framework for the execution of adaptive robotic arc welding. The work will be structured around problem definition, brainstorming, criteria development, decision-making, challenge identification and implementation methodology. The outcome will consist of a poster and comprehensive documentation of the insights and results generated through the students' work.



Repair of components using robotic arc welding

Prerequisites

- Outstanding English level or basic German level
- Knowledge in automatic control theory

Contact

The application must include the CV and the grade report.

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