JIDUO ZHANG MEng.

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EDUCATION

Department of Mechanical and Aerospace Engineering, The University of Manchester Manchester, United Kingdom

Ph.D. in Mechanical Engineering 2021 - 2025

- Supervisor: Dr. Robert Heinemann and Otto Jan Bakker
- Research area: Deep learning system for tool condition monitoring in drilling of aerospace stacks

School of Mechanical Engineering, Northwestern Polytechnical University Xi'an, China

MEng in Aerospace and Aeronautical Manufacturing 2017 - 2020

- Supervisor: Prof. Rong Mo and Huibin Sun
- Research area: Deep learning system for tool wear monitoring and forecasting in milling process

Honors College, Northwestern Polytechnical University Xi'an, China

B.S.c in Aircraft Manufacturing 2017 - 2020

- GPA: 85.
- Exchange study in RWTH Aachen University from 2016-2017

SELECTIVE PUBLICATIONS

1. **Jiduo Zhang**, Robert Heinemann, Otto Jan Bakker, Siqi Li, Xiaoyu Xiao, Yixian Ding. Minimum Sufficient Signal Condition of Identifying Process Incidence in Stacked Drilling Through Deep Learning. *Mechanical Systems and Signal Processing*, 2025. (JCR Q1)
2. **Jiduo Zhang**, Robert Heinemann, Otto Jan Bakker. Process Incidence Monitoring in Material Identification during Drilling Stacked Structures using Support Vector Machine. *The International Journal of Advanced Manufacturing Technology*, 2025. (JCR Q2)
3. **Jiduo Zhang**, Robert Heinemann, Otto Jan Bakker. Knot-TPP: A Unified Deep Learning Model for Process Incidence and Tool Wear Monitoring in Stacked Drilling *Journal of Manufacturing and Materials Processing*, 2025 (JCR Q2)
4. Jiduo Zhang, Robert Heinemann, Otto Jan Bakker, and Menghui Zhu. In-process tool incidence identification based on temporal pyramid pooling and convolutional neural network. *Procedia CIRP*, 2025
5. Sun, Huibin, **Jiduo Zhang**, Rong Mo, and Xianzhi Zhang. In-process Tool Condition Forecasting based on a Deep Learning Method. *Robotics and Computer-Integrated Manufacturing*, 2020. (JCR Q1)
6. Sun, Huibing, Junling Pan, **Jiduo Zhang**, and Rong Mo. "Digital twin model for cutting tools in machining process. *Computer Integrated Manufacturing Systems*, 2019

PUBLICATIONS UNDER REVIEW

1. **Jiduo Zhang**, Robert Heinemann, Otto Jan Bakker. EBPC: A cloud computing framework for the application of deep learning in immediate online process incidence monitoring during drilling of CFRP/Al stacks. *Journal of Intelligent Manufacturing*, (Revision updated 07 May, 2025)

JOINED PROJECTS

Wear degradation modelling and residual life prediction of milling cutters based on stochastic processes (51875475)

National Natural Science Foundation of China (NSFC) 2017.09 - 2020.04

INTERNSHIPS

RWTH Aachen University | Aachen, Germany 2016.10 - 2017.04

- Bachelor Dissertation: Finite Element based numerical analysis of friction and pretension effect on composite protruded bolted joints

Awards and Honors

- **Academic Scholarship**, Northwestern Polytechnical University 2015, 2017 - 2020
- **Academic Scholarship**, Honors College, Northwestern Polytechnical University 2014-2016
- **International Exchange Programme for Outstanding Undergraduate Students**, China Scholarship Council, 2016

Skills

Languages: Chinese, English.

Skills: Deep Learning, Machine Learning, Data Analysis, Finite Element Analysis, Computer-Aided Design, Web and App Development

Frameworks: `Pytorch/Keras`, `C/C++ Dev`, `Web`, `Android/iOS`, `Ansys/ABAQUS`, `ROS`.

Academic Services

Reviewers for: *Journal of Manufacturing System*,
Journal of Intelligent Manufacturing,