



Der Vorsitzende des Promotionsausschusses

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## EINLADUNG

Hiermit lade ich ein zum öffentlichen Promotionskolloquium von

**Frau M. Sc. Tanja Dorst**  
Messtechnik  
(Prof. Dr. Andreas Schütze)

am

**Freitag, 14. Juli 2023, 9:30 Uhr**

per Videokonferenz; Link für MS Teams: [https://kurzelinks.de/PK-TDorst\\_14-07-2023](https://kurzelinks.de/PK-TDorst_14-07-2023)  
Raum für die Prüfung: Gebäude A5.1, Hörsaal -1.03, UG

### **Thema der Dissertation:**

### **Measurement uncertainty in machine learning - uncertainty propagation and influence on performance**

This thesis combines measurement uncertainty based on the principles of the Guide to the Expression of Uncertainty in Measurement (GUM) and machine learning. To perform machine learning, a data pipeline that fuses raw data from different measurement systems and determines measurement uncertainties from dynamic calibration information is presented. Furthermore, a previously published automated toolbox for machine learning is extended to include uncertainty propagation based on the GUM and its supplements. Using this uncertainty-aware toolbox, the influence of measurement uncertainty on machine learning results is investigated, and approaches to improve these results are discussed.

Saarbrücken, 29. Juni 2023

  
Prof. Dr. Christian Motz