Development and Analysis of an Air Nozzle ‘Digital Twin'

match
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Kontakt

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Arbeitsinhalt

To counteract the existing deficits of conventional feeding technology in terms of feeding performance, reliability and flexibility of variation, an image-based feeding system was developed at the Institute of Assembly Technology and Robotics (match). By combining image processing with aerodynamic alignment, the flexibility of the feeding system can be noticeably improved. For this purpose, a digital twin of the nozzle module is to be created in this work and the outgoing air flow simulated.

This results in the following work packages:

- Creating a 3D model of the nozzle with Blender or Autodesk.
- Importing the model into a Python-compatible flow simulator (e.g. Omniverse Flow or Pyrosim) to simulate the air flow.
- Simulate the interaction of airflow and components and compare with a real nozzle.

Art der Arbeit

Bachelor-/Studien-/Masterarbeit

Voraussetzungen

- Previous knowledge of Python/Blender helpful
- B2+ English language skills helpful
- High motivation and independent way of working

Starttermin

As of now

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