

Master / Bachelor Thesis

Application of 3D Printing in Industrial Automation System

3D Printing is one of the trends in the landscape of smart production systems. However, it is difficult to have a clear view of existing challenges in designing, developing, and maintaining systems using 3D printers in this domain, even though various use-case and studies of 3D printing are proposed. In this thesis, an empirical study will be conducted to assess the current state of practice and address challenges in application of 3D printing in the domain of intelligent manufacturing. The results are expected to provide a clear overview of main challenges and solutions about 3D printing from different aspects such as usability, extensibility, etc. Moreover, this work will be used for developing a new method of intelligent manufacturing applying 3D printing.

Scope of the project

Starting with a literature analysis and/or asking the experts, general requirements of an application of 3D printing in the targeted domain should be gathered and protocolled. Afterward, an analysis of state of the art should prove the needs and shortages of existing functionalities in the domain. Solutions and Ideas should be developed for overcoming these targeted shortages. This also includes the extension of existing solutions or implementation of new solutions. An evaluation against the general requirements mentioned above is preferred when possible.

Your profile:

- You are enrolled at the University of Lübeck as a master or bachelor student.
- You are interested in exciting research projects.
- You like to work in a team, are flexible and reliable.
- You have good programming skills in Java.

How to apply:

Write us an email at javad.ghofrani@uni-luebeck.de to arrange a meeting and talk.

The project can be conducted in German or English