



Master / Bachelor Thesis

Implementing Digital Twin of an Industrial Automation System

Digital Twin is a virtual representation that serves as the real-time model of a physical object or process. Digital twins are counted as disruptive technologies for implementation and acceleration of digitalization in different contexts e.g., healthcare, production, smart cities. Digital twin allows us to monitor and also predict the system behaviour under current and future states of the environments. However, the realization of the digital twin concept is a very challenging task and leads to open scientific problems. In this thesis, it is expected to analyse a physical system and develop its digital twin. The current methods and approaches will be investigated, applied, and their various features and functionalities will be evaluated.

Objectives

Starting with a literature analysis and/or asking the experts, general requirements of the digital twin should be gathered. Solutions and ideas will be developed for increasing the efficiency of implementation methods of the digital twin. This also includes the extension of existing solutions or implementation of new solutions. An evaluation regarding the above general requirements is preferred when it is possible.

Your Profile

- You are enrolled at the University of Lübeck as a master or bachelor student.
- You are interested in the research field of industrie 4.0, Internet of Things, or Cyber Physical Systems
- You like to work in a team
- 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.