Analysis of a MCU+FPGA architecture for safety critical automotive applications according to ISO 26262

Motivation

Automotive control units increasingly are subject to requirements regarding safety and reliability. This is due to new functionalities (driving assistant systems, drive-by-wire, etc.) on the one hand and the growing cross-linking of different functionalities on the other hand. When designing systems of this kind it is required to choose an appropriate combination of hardware and software components. These must fulfill the functional requirements as well as safety requirements and must not violate any other non-functional requirements such as costs and energy consumption.

Fields of Study

- Computer science
- Electrical engineering or comparable
- The student should have experience in the domain of microcontrollers and programmable logic (FPGA/CPLD).
- Having participated in one of our lab courses is a big plus.

In case of interest, please send an email to the tutor.

Student

- David Boymanns

Tutor

- Dr.-Ing. Falk Salewski