Lehrstuhl für Schaltungsentwurf
Fakultät für Elektrotechnik und Informationstechnik
Technische Universität München

Data handling in sensor array for touch sensing applications

Research Internship

Motivation:

Artificial e-skin is made up of a large number of sensors. The data from these sensors is transmitted to a central processing system for analysis in order for the system to respond efficiently. The amount of data increases with the number of sensors, which requires higher bandwidth and more computation power.

In case of tactile sensing, the sensors are often stimulated only in certain areas and for a short amount of time. Thus, it is better to extract and transmit the meaningful information only, and filter the redundant data at the sensor level itself.

What has to be done?

- Implementing I2C protocol for data transfer from sensor chip to microcontroller
- using verilog/VHDL.
- Converting the digital logic from HDL code into transistor level implementation.
- Verifying system behavior over various PVT corners.

What is required?

- Basic knowledge of Verilog/VHDL.
- Basic knowledge of digital circuit design.
- Independent, solution-oriented way of working

Prof. Ralf Brederlow
Chair of Circuit Design
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Interested?
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