

Bachelor's Thesis, Forschungspraxis, Master's Thesis

Implementation of Hardware Trojans

In a world of multinational production chains, hardware trojans inserted by untrusted third parties are an emerging threat for the security of integrated circuits.

In order to develop methods for hardware trojan detection, specimens of hardware trojans are needed. Unfortunately, the variety of specimen currently available is very low.

During this thesis, you will implement a hardware trojan for a FPGA or ASIC circuit.

Prerequisites

The following list of prerequisites is neither complete nor binding, but shall give you an idea, what the topic is about.

- Sufficient knowledge in a High-Level Programming language such as python for designing an interface
- Basic to intermediate knowledge of a hardware description language such as vhdl or verilog for designing the trojan
- Basic knowledge in design/architecture of cryptographic algorithms / CPUs to know where a trojan might be injected

Contact

If you are interested in this topic, don't hesitate to ask for an appointment via

alex.hepp@tum.de

Please include a grade report and a CV, so I can evaluate different focus areas to fit your experience.

Advisors

Alexander Hepp